



Arizona Department of Health Services

Injury Surveillance and Prevention Plan
for the State of Arizona

2006 – 2010

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THANK YOU

The Arizona Department of Health Services is greatly indebted to the people who gave so generously of their time and shared their expertise in the development of the Arizona Injury Surveillance and Prevention Plan. Through their leadership and vision this plan has been developed.

Contributors include administrators and representatives of many of the bureaus and offices throughout the Department of Health Services, representatives of community and tribal programs, statewide coalitions and advocacy groups, and of other efforts devoted to injury prevention throughout the State of Arizona.

We would like to extend a special thank you to Pam Goslar, PhD, who graciously assumed the responsibilities as chair of the Injury Prevention Advisory Council, and contributed many hours to the completion of this plan. We are grateful to Ms. Goslar for all her hard work and dedication to prevention of injury in Arizona.

A complete listing of participants is in the appendix.



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JANET NAPOLITANO, GOVERNOR
SUSAN GERARD, DIRECTOR

July 2006

To All Arizonans:

After many months of hard work on the part of very dedicated participants, I am pleased to present the Arizona Injury and Surveillance Plan, 2006-2010.

This plan provides an excellent blueprint for immediate and future programs to solve one of the biggest public health problems facing Arizona – injuries.

Injuries are the leading cause of death to Arizonans from age one to 44, and more Arizonans are dying from injuries compared to the rest of the nation. In fact, Arizona had the seventh highest age-adjusted death rate due to injuries in the U.S. in 2003.

For too long, we have thought of injuries as just the result of unavoidable accidents or random acts of fate. The reality is, however, that most injuries are predictable, preventable, and understandable.

The Arizona Department of Health Services is working hard to identify and quantify the problem so we can implement prevention plans. In August 2005, the Department entered into a five-year cooperative agreement with the Centers for Disease Control and Prevention to update the statewide plan for injury surveillance and prevention and encourage implementation of effective strategies to reduce injuries among our residents.

Joining with public and private sector partners, the Department will use this plan to increase awareness of injury issues, to promote continuous community participation, and to facilitate opportunities for injury prevention activities.

This plan specifically addresses major categories of injury, including: motor vehicle crashes and other transportation-related injuries; falls; drowning and near-drowning; poisoning; fire and burns; suicide and self-inflicted injuries; homicide and assault; firearm related incidents; and relationship violence.

The Department's Division of Public Health will lead implementation of the plan. Administration and coordination will rest within the Office of Women's and Children's Health.

This plan is not the final answer. Instead, it is a call to action to strengthen our efforts to reduce the burden of injury in Arizona.

Sincerely,

A handwritten signature in black ink, appearing to read "Susan Gerard".

Susan Gerard
Director

EXECUTIVE SUMMARY

PURPOSE

The purpose of the Arizona Injury Surveillance and Prevention Plan (Injury Plan) is to expand and improve efforts to control injury through coordination, communication, and cooperation among the various programs in the Arizona Department of Health Services and outside agencies appropriate to each of the injury topics.

VISION

The vision of the Injury Plan is to reduce injuries in Arizona using integrated surveillance and evidence supported strategic interventions.

BACKGROUND AND DEVELOPMENT

Arizona's injury rates have been consistently higher than national rates and among many injury topics the rates have been increasing. In 2004, injuries were the leading cause of death to Arizonans from age one to forty-four.¹ Many more Arizonans are injured and survive who may have consequent pain and disability. However, injuries are frequently predictable and preventable. Much opportunity exists in reducing mortality and morbidity due to injuries in Arizona.

Recognizing the burden of injury in Arizona, the Arizona Department of Health Services has entered into a five-year Cooperative Agreement with the Centers for Disease Control and Prevention (CDC) to continue with the implementation of the Arizona Injury Surveillance and Prevention Plan. Specific injuries and risk behaviors addressed in the Injury Plan reflect those identified by the State and Territorial Injury Prevention Directors Association (STIPDA).²

Arizona's Injury Plan reflects a synergy of ideas generated statewide from professionals who work in the field of injury prevention each day. Data was gathered to determine injury issues, literature was reviewed to determine what strategies are most effective in preventing injuries, and strategies were formulated that will allow Arizona to move forward in preventing those injury events.

¹ Arizona Health Status and Vital Statistics 2004.

² Consensus Recommendations of Injury Surveillance in State Health Departments, November 1, 1999. State and Territorial Injury Prevention Directors Association. <http://www.stipda.org/>

IMPLEMENTATION

Leadership for the Injury Plan is located in the Department of Health Services, Division of Public Health Services, Office of Women's and Children's Health. Programs for reducing injury are also found in the Bureau of Emergency Medical Services, the Bureau of Public Health Statistics, the Division of Behavioral Health Services, Division of Assurance and Licensure, and the Healthy Aging 2010 program, among others.

Within the Injury Plan, data-based surveillance guides the process for determining which actions and strategies will be most effective in reducing injury. Injuries will be tracked through electronic databases including Vital Records death certificates, inpatient hospitalizations, emergency department visits, and outside sources such as the Behavioral Risk Factor Survey, Youth Risk Behavior Survey, and Safe and Drug Free Schools.

ADHS continues to provide surveillance data and to work with other organizations that strive to reduce injuries. Among these are state, local and tribal police and fire departments, Arizona Domestic Violence Coalition, Arizona Department of Public Safety, highway safety groups, poison control centers, drowning prevention groups, hospitals, schools, behavioral health agencies and various community and school-based programs. The Injury Plan is intended to be used by organizational groups and individuals as a guide for policy development and to support legislative initiatives as well as for resource identification, strategies, program implementation and evaluation.

KEY FINDINGS IN 2004

In 2004, about 1 out of 14 Arizona residents sought medical attention for an injury. There were 4,108 deaths, 37,581 inpatient hospitalizations (including 659 deaths), and 380,112 emergency department visits (including 281 deaths) due to injuries among Arizona residents in 2004.

UNINTENTIONAL INJURIES

- Unintentional injuries accounted for 64 percent of all injury-related deaths, 78 percent of all injury-related hospitalizations, and 91 percent of all injury-related emergency department visits in Arizona during 2004.
- Motor vehicle injuries accounted for one in four (n=1,018) injury-related deaths in Arizona occurring in 2004.
- Falls were the third leading cause of unintentional injury-related deaths for all age groups and the leading cause for those 65 and older.
- Children ages 1-4 had the highest rates of hospitalizations and emergency department visits due to unintentional drowning-related injuries.
- Poisoning was the second leading cause of unintentional injury deaths for all ages in Arizona during 2004.

- While children age 1-4 make up only 6 percent of the population in Arizona, they accounted for 15 percent of hospitalizations and 17 percent of emergency department visits due to fire/burn-related injuries.
- Males 20-24 had the highest rates of hospitalizations (18.9 per 100,000) and emergency department visits (46.2 per 100,000) due to unintentional firearm-related injuries.

INTENTIONAL INJURIES

- In 2004, intentional injuries accounted for 33 percent of all injury-related deaths, 13 percent of all injury-related hospitalizations, and 6 percent of all injury-related emergency department visits in Arizona.
- One in five injury-related deaths (21 percent, n=854) were suicides and 12 percent (n=486) were homicides.
- Firearms accounted for 59 percent of suicides and 68 percent of homicides.
- Incidents of relationship violence such as domestic violence, sexual violence, child abuse, and adult abuse are vastly underreported through official sources.

RECOMMENDATIONS

- Gaps in the area of data collection and analysis need to be addressed such as improving the coding of external causes of injury, expanding data collection systems, and gathering information on injuries not covered in this Injury Plan.
- Intervention efforts should be further expanded by implementing evidence-based interventions adapted for particular target populations, integrating injury prevention with other areas of public health, and increasing evaluation components to prevention programs.
- Infrastructure for injury prevention should be strengthened by identifying statewide short- and long-term priorities.
- Technical support and training related to injury prevention should be available to state agencies, community organizations, and individuals.
- Knowledge of policy issues and the role of both state and local injury prevention personnel need to be enhanced for injury prevention efforts within Arizona.

INTRODUCTION

Injury is a serious public health problem impacting the health of many Arizonan citizens. This includes premature death, disability, and the burden on our health care system. Injury deaths are only part of the picture. Many Arizonans are injured each year and survive. The injury may cause temporary pain and inconvenience, but for some the injury leads to disability, chronic pain, large medical bills, and a profound change in lifestyle.

An injury affects more than just the person injured - it affects everyone who is involved in the injured person's life. When a fatal injury occurs, family, friends, coworkers, employers, and other members of the injured person's community will feel the loss. In addition to experiencing grief, they may experience a loss of income or the loss of a primary caregiver.

With a nonfatal injury, family members are often called upon to care for the injured person, which can result in stress, time away from work, and possibly loss of income. Society is also profoundly affected by injuries. The financial costs of injuries include direct medical care, rehabilitation, lost wages, and lost productivity.

While people tend to perceive injuries happening because of unpreventable accidents, most injuries are predictable, preventable, and understandable. Understanding the why of injuries allows prevention specialists to educate communities that injury events are not accidents, fate, or destiny. Identifying factors that cause injury leads to effective prevention strategies. This is important because injuries are the leading cause of death to Arizonans between the ages of 1 and 44.¹

Injury prevention focuses on all types of injuries whether unintentional or intentional, occurring in different settings, and with different causes. Injury types include fractures, lacerations, penetrating injuries, burns, head injuries, poisonings, strains, and drowning.

Who is doing the work of injury prevention in Arizona? They are members of the community who are concerned about a particular injury issue. Examples include firefighters who conduct home safety checks for seniors, police officers who educate teenagers about restraint use, health departments who do car seat checks, educators that teach about violence prevention, health workers that teach new parents how to safely care for their infant and parent teacher organizations that host bicycle rodeos.

¹ Arizona Health Status and Vital Statistics 2004

When injury is addressed from a public health standpoint, the model begins by defining the problem. The public health model involves ongoing data gathering (surveillance), development of prevention strategies, identification of partners, assisting with program implementation, and evaluating progress and outcomes.

An epidemiological approach is used to study and understand how injuries occur. The injury host and injury environment are similar to the medical disease model where, for example, germs (agent) can cause an individual (host) to become ill if they forget to wash their hands (environment). The difference between the two is the causative agent. With injuries, the agent (what causes the injury) is energy. This energy can be mechanical, chemical, thermal, electrical, radiant, or absence of necessary energy elements (oxygen, heat).

Dr. William Haddon viewed injuries systematically by developing an injury model that places the agent, host, and environment on a matrix to analyze what occurs pre-injury, during the injury event, and then post-injury. Each phase correlates with prevention efforts that may be primary, secondary, or tertiary.² The following table can be used in describing potential intervention points for motor vehicle-related injuries. For example, experience of the driver influences his/her ability to recognize a road hazard and could be mitigated by requirements for a graduated drivers license.

Table 1. Causative Factors for Motor Vehicle Injuries

	Host (Person)	Agent (Vehicle)	Environment Social	Environment Physical	
P H A S E S	Pre- Event/Injury	Experience	Speed	Attitudes	Traffic
	Event/Injury	Seatbelts	Energy Absorbing Materials	Enforcement	Guard Rails
	Post- Event/Injury	Age		Training EMS	Distance to Care

² Christoffell, T. Gallagher, S. (1999) Injury Prevention and Public Health Practical Knowledge, Skills, and Strategies.

DEVELOPMENT OF THE ARIZONA INJURY SURVEILLANCE AND PREVENTION PLAN

Arizona Department of Health Services (ADHS) has a five year cooperative agreement with the Centers for Disease Control and Prevention (CDC) to continue with the implementation of the Arizona Injury Surveillance and Prevention Plan (Injury Plan). The director of ADHS assigned responsibility for the design, maintenance, and implementation of the Injury Plan to key staff that worked with partners throughout the state. The Injury Prevention Advisory Council was established comprising of leaders in the field of injury prevention and control. This council collaborates with an internal ADHS injury workgroup. The Injury Prevention Advisory Council continues to review progress with implementation, assists with problem solving, participates in revision and evaluation of the Injury Plan, and acts as a liaison with other agencies that are working on implementing the Injury Plan.

Christoffel and Gallagher (1999) identify the role of state lead agencies in injury prevention as being able to assist local injury prevention efforts in several important ways, including the provision of resources and guidance. The ADHS Injury Prevention program serves as a coordinating body within the health department. This program provides focus, works to reduce duplication, and seeks to improve the use of existing resources. The program is responsible for (1) identifying injury problems and the specific needs for injury prevention programs, policies, and services within the state; (2) keeping abreast of developments within the field of injury prevention and sharing this information with others; (3) understanding where injury prevention fits into what other agencies are doing and serving as a coordinating force that brings different players to the table; (4) and building a solid constituency for injury prevention activities within the state.

Leadership for the Injury Plan is located in the Department of Health Services, Division of Public Health Services, Office of Women's and Children's Health. Programs for reducing injury are also found in the Bureau of Emergency Medical Services, Bureau of Public Health Statistics, the Division of Behavioral Health Services, Division of Assurance and Licensure, and the Healthy Aging 2010 Program, among others.

Within this Injury Plan, data-based surveillance guides the process for determining which actions and strategies will be most effective in reducing injury. Specific injuries and risk behaviors addressed in the Injury Plan reflect those identified by the State and Territorial Injury Prevention Directors Association (STIPDA).³

³ Consensus Recommendations of Injury Surveillance in State Health Departments, November 1, 1999. State and Territorial Injury Prevention Directors Association. <http://www.stipda.org/>

ADHS continues to provide surveillance data and to work with other organizations that strive to reduce injuries. Among these are state, local, and tribal police and fire departments, state agencies, prevention groups focused on domestic violence, highway safety, poisoning, drowning, suicide; hospitals, schools, behavioral health agencies and various community and school-based programs. Organizational groups and individual can use this Injury Plan as a guide for policy development and support legislative initiatives as well as for resource identification, strategies, program implementation, and evaluation.

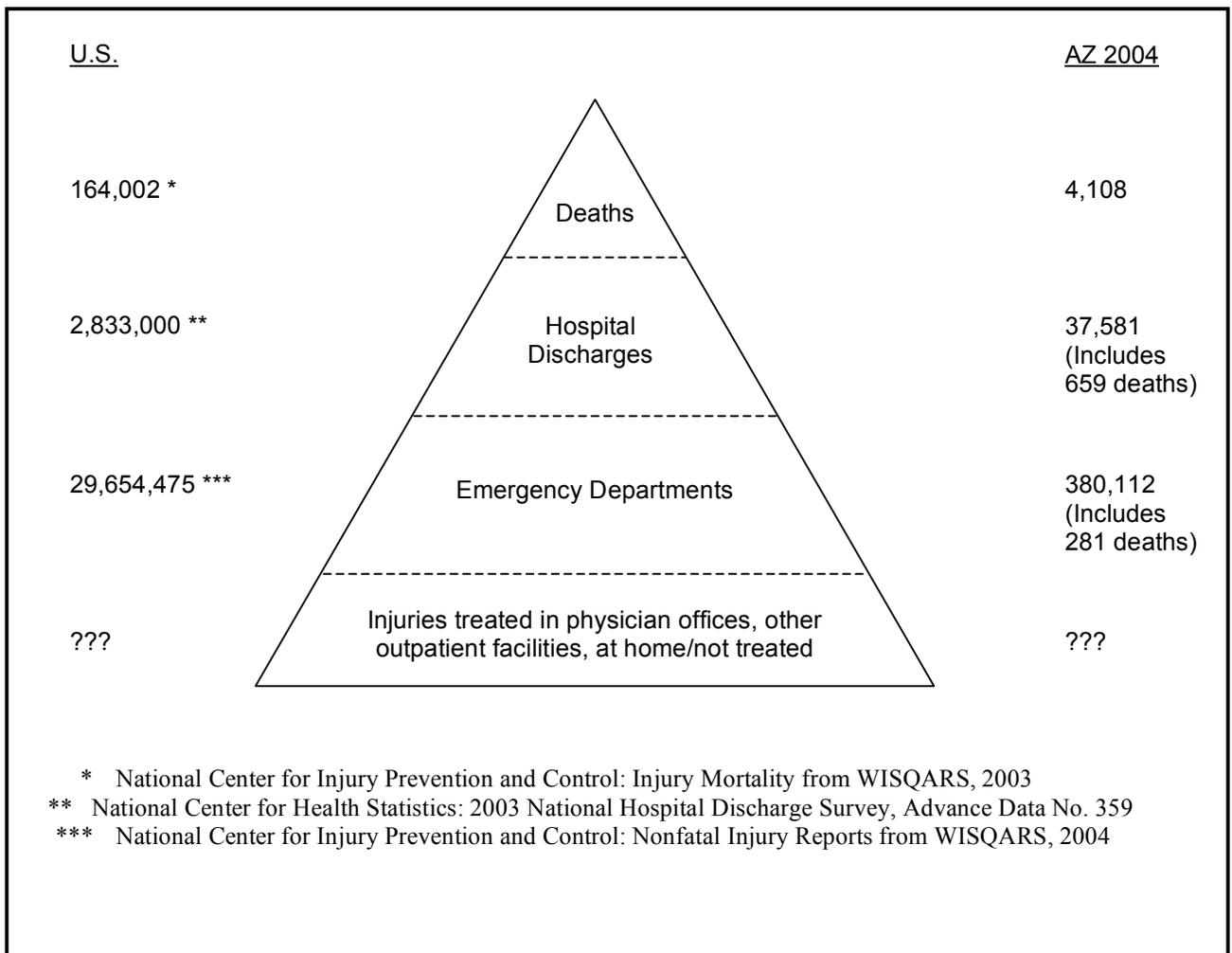
The vision is to reduce injuries in Arizona using integrated surveillance and evidence-supported strategic interventions. The Injury Plan will guide coordination, communication, and cooperation among the various programs within ADHS as well as outside agencies concerned with injury issues in Arizona. This Injury Plan is intended to be used to increase awareness of injury issues, promote continuous community participation, and to facilitate opportunities for injury prevention activities.

APPRECIATING ARIZONA'S INJURY PROBLEM

The magnitude of Arizona's injury problem can be considered from several perspectives: its high rank among leading causes of death, the number and proportion of deaths it causes, years of potential life lost, hospitalization rates and charges, number of emergency department visits, number of persons disabled, and its effects on family and community.

Figure I.1 below shows an injury pyramid for the United States and Arizona. This pyramid shows that deaths represent the smallest proportion of injuries or the tip of the iceberg. Increasing proportions form the foundation of the pyramid that is comprised of hospital discharges, ambulatory visits, and self-care. While injuries requiring only self-care and no formal medical treatment may be the most numerous, they are difficult to evaluate because there are no existing datasets for these types of injuries.

Figure I.1.



In 2004, about 1 out of 14 Arizona residents sought medical attention for an injury. There were 4,108 deaths, 37,581 inpatient hospitalizations (including 659 deaths), and 380,112 emergency department visits (including 281 deaths) due to injuries among Arizona residents in 2004.

Injuries may cause temporary pain and inconvenience, but for some, injuries can lead to long-term disabilities, chronic pain, and overwhelming lifestyle changes. Many thousands of Arizona residents are hospitalized and require visits to the emergency department each year due to injuries that result in an enormous financial burden to society. In the United States during 2000 alone, the cost of medical treatment for fatal and nonfatal injuries totaled over \$406 billion which includes \$80.2 billion in medical care costs and \$326 billion in productivity losses.¹

Although injury deaths are the tip of the injury iceberg, the richest injury-related data sources focus on deaths. While hospital discharge and emergency department databases do not include people treated at tribal and federal hospitals (military and Indian Health Services), death certificate databases include all deaths occurring in a given jurisdiction. Therefore, the remainder of this introduction to Arizona's injury problem will focus on injury-related death data. Deaths only begin to show the magnitude of Arizona's injury problem and the subsequent need for injury prevention.

LEADING CAUSES OF DEATH

Table I.1 shows that unintentional injury was the fifth leading cause of death for all age groups and the leading cause of death for 1-44 year olds from 1999 through 2003 in Arizona.² According to the Centers for Disease Control and Prevention, unintentional injury deaths occurring during this time period (1999-2003) in Arizona accounted for 255,550 years of potential life lost before the age of 65.²

¹ Finkelstein EA, Corso PS, Miller TR, Associates. Incidence and Economic Burden of Injuries in the United States. New York: Oxford University Press; 2006.

² Centers for Disease Control and Prevention, National Centers for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2005) {cited 2006 Feb 2} Available from: www.cdc.gov/ncipc/wisqars.

Table I.1. 10 Leading Causes of Death, Arizona
1999 - 2003, All Races, Both Sexes

Rank	Age Groups										All Ages
	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	
1	Congenital Anomalies 649	Unintentional Injury 258	Unintentional Injury 136	Unintentional Injury 190	Unintentional Injury 1,606	Unintentional Injury 1,530	Unintentional Injury 2,125	Malignant Neoplasms 3,755	Malignant Neoplasms 7,465	Heart Disease 44,437	Heart Disease 53,711
2	Short Gestation 390	Congenital Anomalies 59	Malignant Neoplasms 51	Malignant Neoplasms 47	Homicide 680	Suicide 689	Malignant Neoplasms 1,306	Heart Disease 2,781	Heart Disease 5,101	Malignant Neoplasms 33,024	Malignant Neoplasms 46,208
3	SIDS 181	Malignant Neoplasms 40	Homicide 20	Suicide 41	Suicide 569	Homicide 629	Heart Disease 967	Unintentional Injury 1,744	Chronic Low. Respiratory Disease 1,094	Cerebrovascular 11,259	Chronic Low. Respiratory Disease 12,695
4	Maternal Pregnancy Comp. 131	Homicide 39	Congenital Anomalies 15	Homicide 21	Malignant Neoplasms 170	Malignant Neoplasms 339	Suicide 800	Liver Disease 924	Unintentional Injury 945	Chronic Low. Respiratory Disease 11,176	Cerebrovascular 12,691
5	Placenta Cord Membranes 126	Influenza & Pneumonia 22	Benign Neoplasms 8	Congenital Anomalies 19	Heart Disease 79	Heart Disease 230	Liver Disease 465	Suicide 742	Diabetes Mellitus 895	Alzheimer's Disease 6,199	Unintentional Injury 12,289
6	Unintentional Injury 116	Heart Disease 20	Influenza & Pneumonia 7	Heart Disease 14	Congenital Anomalies 42	HIV 105	Homicide 443	Diabetes Mellitus 433	Cerebrovascular 740	Influenza & Pneumonia 5,300	Alzheimer's Disease 6,252
7	Influenza & Pneumonia 104	Septicemia 13	Anemias 5	Chronic Low. Respiratory Disease 5	Diabetes Mellitus 22	Liver Disease 86	HIV 358	Cerebrovascular 422	Liver Disease 697	Diabetes Mellitus 3,919	Influenza & Pneumonia 6,247
8	Circulatory System Disease 73	Perinatal Period 11	Heart Disease 5	Influenza & Pneumonia 5	Influenza & Pneumonia 21	Diabetes Mellitus 61	Cerebrovascular 184	Chronic Low. Respiratory Disease 290	Suicide 413	Unintentional Injury 3,569	Diabetes Mellitus 5,517
9	Neonatal Hemorrhage 72	Cerebrovascular 8	HIV 4	Septicemia 5	Cerebrovascular 19	Cerebrovascular 47	Diabetes Mellitus 180	Homicide 260	Influenza & Pneumonia 336	Nephritis 2,394	Suicide 4,043
10	Bacterial Sepsis 71	Meningitis 7	Meningitis 4	Diabetes Mellitus 4	HIV 13	Influenza & Pneumonia 44	Influenza & Pneumonia 159	Viral Hepatitis 257	Nephritis 310	Parkinson's Disease 1,841	Liver Disease 3,284

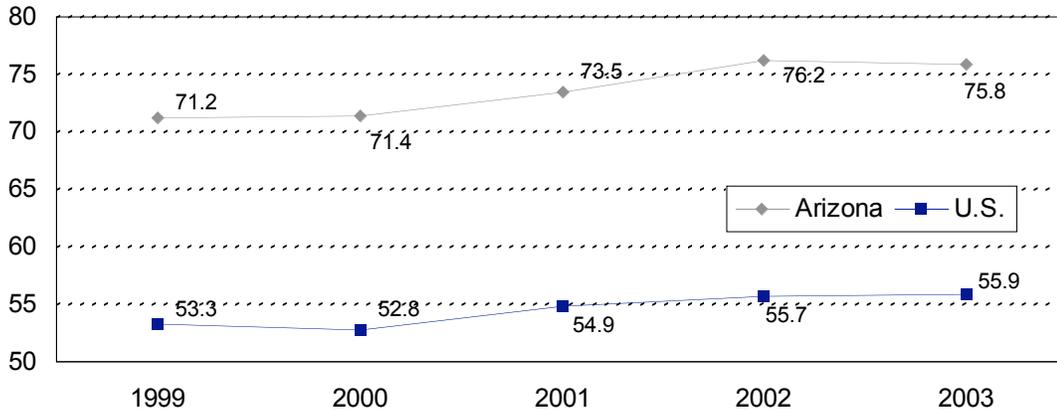
WISQARS™ Produced By: Office of Statistics and Programming, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention
Data Source: National Center for Health Statistics (NCHS), National Vital Statistics System

INJURY DEATH TRENDS

According to the latest comparison available, Arizona has the seventh highest age-adjusted death rate due to injuries in the nation. Figure I.2 below shows the age-adjusted mortality rates for both Arizona and the United States from 1999 through 2003, which is the most recent year for which comparisons are

available.³ In 2003, the age-adjusted injury-related death rate in the United States was 55.9 people per 100,000 compared to 75.8 per 100,000 in Arizona. This figure also shows that the rate in Arizona appears to be increasing with a rate of 71.2 per 100,000 in 1999 to 75.8 in 2003. The Arizona injury-related death rate has been consistently higher than the national rate during this time period.

Figure I.2. Age-Adjusted Injury Mortality Rates, Arizona Compared to U.S., 1999-2003



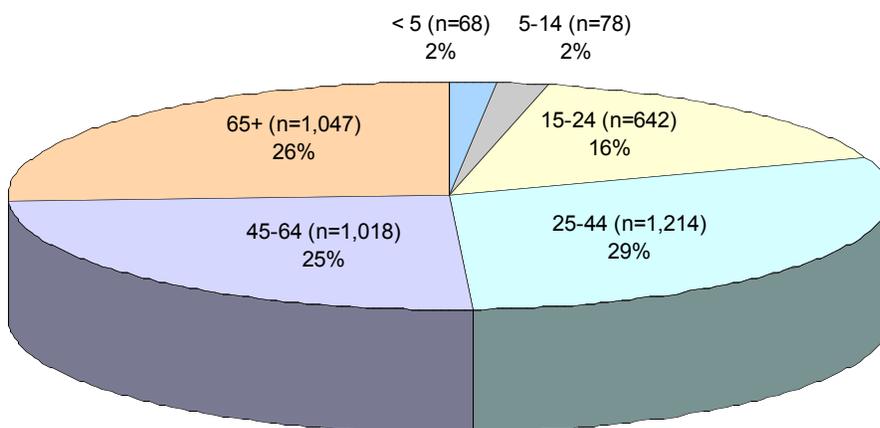
Source: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Web-based Injury Statistics Query and Reporting System (WISQARS)

DEATHS FROM ALL INJURIES

Among the 4,108 deaths due to all injuries, 69 percent were males (n=2,834) and 31 percent were females (n=1,274). Adults age 25-44 accounted for 29 percent (n=1,214), adults age 46-64 accounted for 25 percent (n=1,018), and adults 65 and older accounted for 26 percent (n=1,047) of deaths due to all injuries. Figure I.3 shows the age distribution of Arizona residents who died from injury-related events during 2004.

³ Centers for Disease Control and Prevention, National Centers for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2005) {cited 2006 Feb 2}. Available from: www.cdc.gov/ncipc/wisqars.

Figure I.3. All Injury-Related Deaths
by Age Group, Arizona 2004



Does not include 41 cases with unknown age

Injuries may result from unintentional or intentional events. According to the Centers for Disease Control and Prevention, unintentional events are those that are “not inflicted by deliberate means.”⁴ On the other hand, intent of injury is “whether an injury was caused by an act carried out on purpose by oneself or by another person(s), with the goal of injuring or killing.”⁵ Deaths that occur due to intentional injuries can be further broken down into suicide (self-inflicted with intent to harm) or homicide (inflicted by another with intent to harm).

In some cases, there is not enough information available to confirm intentionality and consequently these deaths are classified as undetermined. Acts of war and legal interventions resulting in injury are included in the category of “Other.” Injuries occurring from operations of war are those to military personnel and civilians caused by war or civil insurrections. Legal interventions include any injury inflicted by law enforcement personnel while arresting or attempting to arrest lawbreakers, suppressing disturbances, or maintaining order. They also include legal execution.⁵ There were no legal execution deaths in Arizona during 2004 but studies have documented a phenomenon called “suicide-by-cop” where individuals deliberately act in a threatening manner to the extent that a law enforcement officer may shoot the individual.⁶

Figure I.4 below shows that the majority of all injury-related deaths (64 percent, n=2,641) in Arizona during 2004 were unintentional. One in five (21 percent,

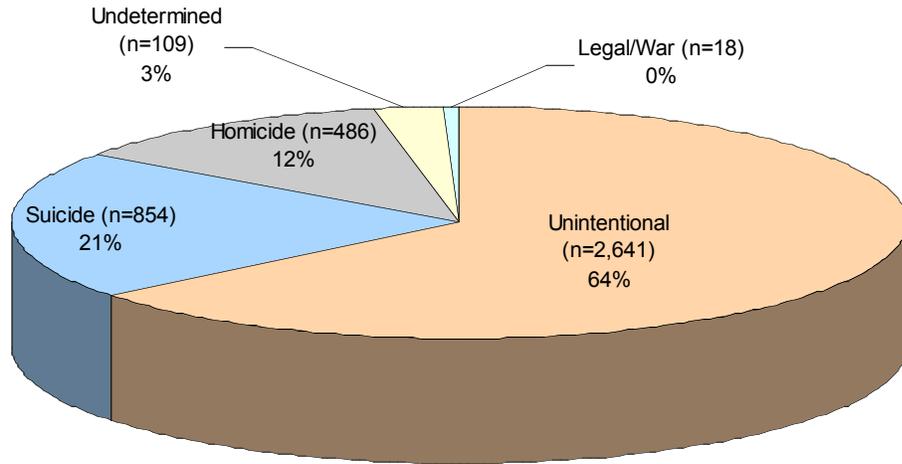
⁴ <http://www.cdc.gov/ncipc/wisqars/nonfatal/definitions.htm>, accessed 11/25/2005.

⁵ International Classification of Diseases, 9th edition, Clinical modification 6th edition, 2005. Practice Management Information Corporation, 2004.

⁶ <http://www.suicidebycop.com/page3.html>.

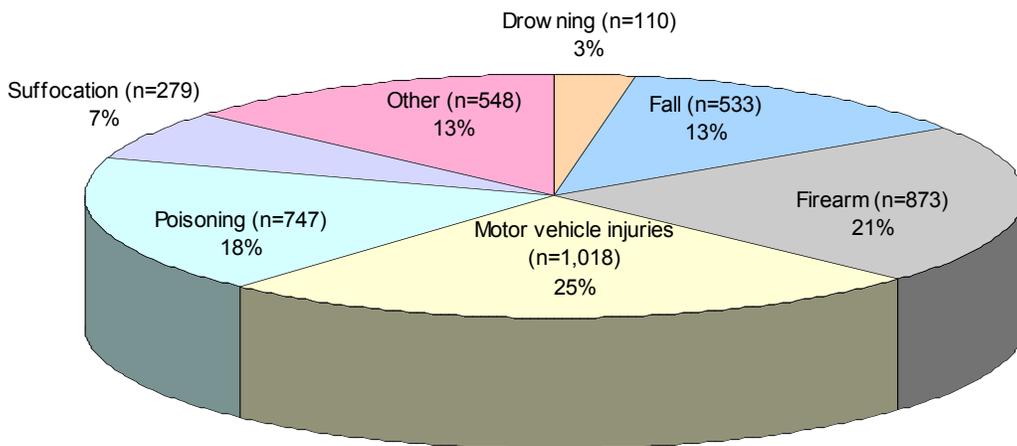
n=854) were suicides, 12 percent (n=486) were homicides, and three percent (n=109) were of undetermined intent.

Figure I.4. All Injury-Related Deaths by Intention, Arizona 2004



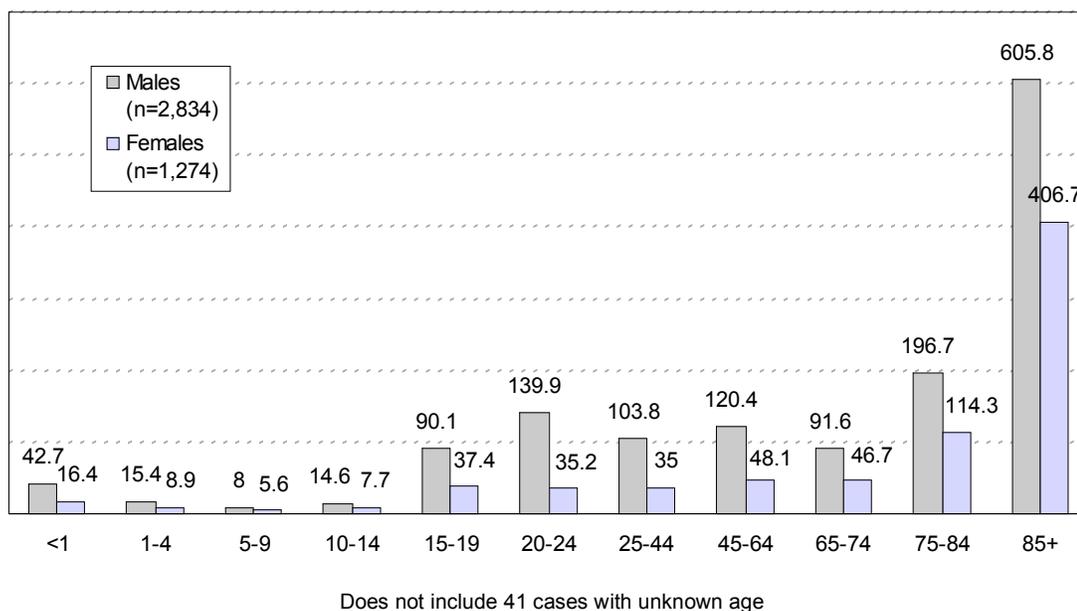
According to the Centers for Disease Control and Prevention, the mechanism (or cause) of injury is “the way in which the person sustained the injury; how the person was injured; or the process by which the injury occurred.”⁵ Motor vehicle injuries accounted for one in four (n=1,018) injury-related deaths in Arizona occurring in 2004. Firearms (21 percent, n=873) and poisoning (18 percent, n=747) were the second and third most common mechanisms of injury death. Figure I.5 shows the breakdown of mechanism of injury for all injury-related deaths occurring in Arizona during 2004.

Figure I.5. All Injury-Related Deaths by Mechanism, Arizona 2004



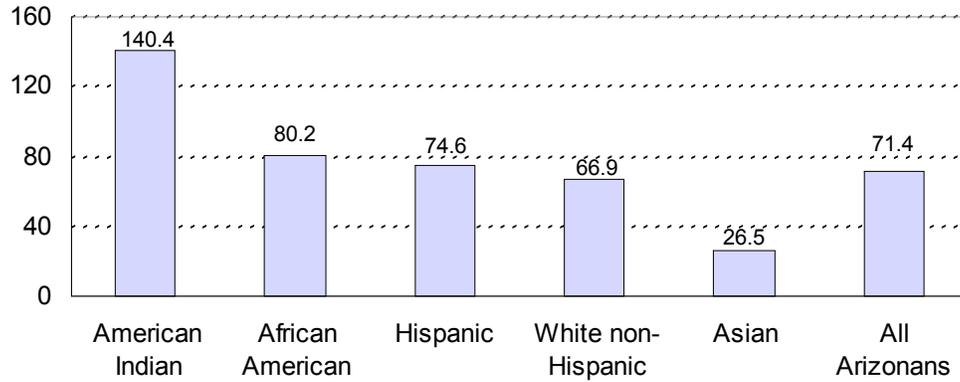
Older adults are at higher risk than other age groups for injury-related deaths. Co-morbidities and longer healing processes among older adults may be contributors to higher risk. The group with the highest rate of injury-related deaths in Arizona during 2004 was males age 85 and older with 605.8 deaths per 100,000. Figure I.6 below shows the injury-related death rates by age and gender. This figure shows that, throughout the life span, males have higher rates of injury-related deaths than females.

Figure I.6. All Injury-Related Death Rates per 100,000 Population, Arizona 2004



Injury-related death rates also vary by race/ethnicity in Arizona. American Indians had the highest mortality rates due to injuries (140.4 per 100,000) but represent a small percentage of Arizona's population (five percent). Figure I.7 below shows the 2004 age-adjusted rates for all injury-related deaths by race/ethnicity in Arizona.

Figure I.7. Age-Adjusted Injury Death Rates per 100,000 by Race/Ethnicity, Arizona 2004



SURVEILLANCE METHODS

The Assessment and Evaluation Section of the Arizona Department of Health Services (ADHS) Office of Women's and Children's Health (OWCH) is responsible for integrating various data sources into a core injury surveillance system. While teams specializing in individual topics have in the past relied on analysis from other sources, the Injury Plan used a combination of data that was either produced by the Assessment and Evaluation Section or was verified by them to ensure thorough documentation and standardization. For a complete description of data sources, please see the appendix.

Coding recommendations for injuries defined by the Centers for Disease Control and Prevention (CDC) were used to ensure that Arizona's data could be compared to other states. Protocols for cleaning and analyzing injury data were developed according to CDC guidelines as described below.

CODES AND GUIDELINES

Injury fatalities were identified using the International Classification of Diseases, 10th Revision (ICD-10) codes indicating an injury as the underlying cause of death on the death certificate. The groupings for injury mortality were based upon the CDC Injury Mortality Matrix for ICD-10.¹ Injury mortality and morbidity groupings allowed for an evaluation of manner (or intent) and mechanism (or cause).

In hospitalization and emergency department data, injury morbidity is identified by the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) codes. Nature of injury codes (N-codes) provide information on the nature of an injury and the part of the body injured. Per CDC's instructions for preparing injury data, an injury subset for hospitalizations and emergency department visits was created by searching only in the principal diagnostic code field for injury N-codes.² External causes of injury codes (E-codes) give supplemental information on circumstances surrounding the injury. Injuries were defined by locating E-codes indicating an injury in any of the E-code fields or in any of the nine diagnostic fields. The categories of injury morbidity were based upon the CDC recommended framework of E-code groupings for presenting morbidity data.³

¹Centers for Disease Control and Prevention, National Center for Health Statistics, <http://www.cdc.gov/nchs/about/otheract/ice/matrix10sas.htm>, accessed on 10/28/05.

²Centers for Disease Control and Prevention, State Injury Indicators: Instructions for Preparing 2004 Data, <http://www.cdc.gov/ncipc/didop/StateInjIndicators.htm>, accessed on 03/13/06.

³Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, <http://www.cdc.gov/ncipc/whatsnew/matrix2.htm>, accessed on 10/28/05.

Per CDC instructions, several E-codes were excluded from the analysis, including location of injury (E849) and E-codes related to adverse effects of medical care and drugs (E870-879, E930-949). The CDC guidelines recommended the inclusion of readmissions, transfers, and deaths when tabulating the number of hospitalizations and emergency department visits for injuries. Deaths, hospitalizations, and emergency department visits are those of Arizona residents only. Additionally, only nonfederal, acute care, or inpatient facilities were included in the data analysis which excludes federal, rehabilitation, and psychiatric hospitals.

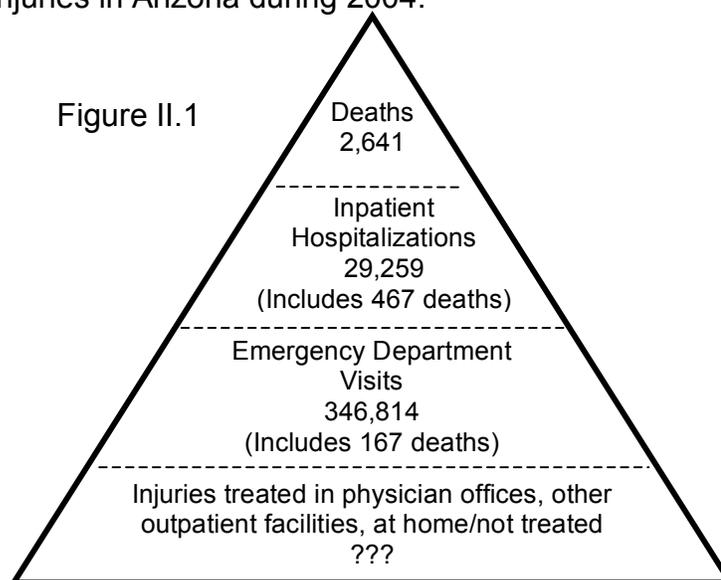
UNINTENTIONAL INJURIES

In 2004, unintentional injury was the leading cause of death for 1-44 year old Arizona residents. While commonly called “accidents”, unintentional injuries are often predictable. Safety efforts may prevent the injury event from occurring or reduce the severity of the injury. Unintentional injuries accounted for 64 percent of all injury-related deaths, 78 percent of all injury-related hospitalizations, and 91 percent of all injury-related emergency department visits in Arizona during 2004.

The causes or mechanisms of unintentional injuries vary by injury severity and place of occurrence. Motor vehicle traffic events and falls were among the top causes for deaths, hospitalizations, and emergency room visits due to unintentional injuries. According to the National Safety Council, 44 percent of unintentional injury deaths involved a motor vehicle and 33 percent of unintentional injury deaths occurred in or around the home in the United States during 2003.¹ Additionally, over three million people in the nation suffered disabling injuries in the workplace.¹

Unintentional injuries that are reported in depth in this Injury Plan include transportation injuries, falls, drowning, poisoning, fire/burns, and firearm-related injuries. Unintentional injuries that are not discussed in this Injury Plan but are important to be addressed in the future include machinery, natural/environmental, terrorism events, overexertion, cut/pierce, struck by/against, suffocation, and other/unspecified injuries.

In 2004, there were 2,641 deaths, 29,259 inpatient hospitalizations (including 467 deaths), and 346,814 emergency room visits (including 167 deaths) due to unintentional injuries in Arizona. Figure II.1 below shows the injury pyramid for unintentional injuries in Arizona during 2004.



¹ National Safety Council, Injury Facts, 2004 edition, <http://www.nsc.org/product/samplechapters/if/injuryfactspreview.pdf>, accessed 12/20/05.

UNINTENTIONAL TRANSPORT INJURIES

BACKGROUND

Unintentional transport injuries can occur among motor vehicle occupants, pedal cyclists, pedestrians, and in other transport events. Motor vehicle-related injuries kill more children and adults (20-44 years) than any other single cause in Arizona¹ and the United States^{2,3}.

There were 1,116 deaths from all unintentional transport injuries in Arizona during 2004. In addition, there were 8,518 inpatient hospitalizations and 59,792 emergency room visits for all unintentional transport injuries.

According to the Centers for Disease Control and Prevention's guidelines for coding injury mortality and morbidity data^{4,5}, unintentional transport injuries can be categorized into traffic and non-traffic events. Motor vehicle traffic injuries refer to injuries of motor vehicle occupants, motorcyclists, pedal cyclists, and pedestrians resulting from any motor vehicle event occurring on a public street or highway. Non-traffic events occur entirely in any place other than a public street or highway (e.g. driveway or parking lot). Non-traffic events causing injuries to motor vehicle occupants, motorcyclists, pedestrians, and pedal cyclists as well as injuries resulting from watercraft and air transport events are represented in separate categories seen in Figure 1 below. Figure 1 shows the distribution of all types of unintentional transport-related fatalities. Motor vehicle traffic injuries accounted for 91 percent (n=1,018) of all transport-related deaths.

¹ Arizona Health Status and Vital Statistics 2004.

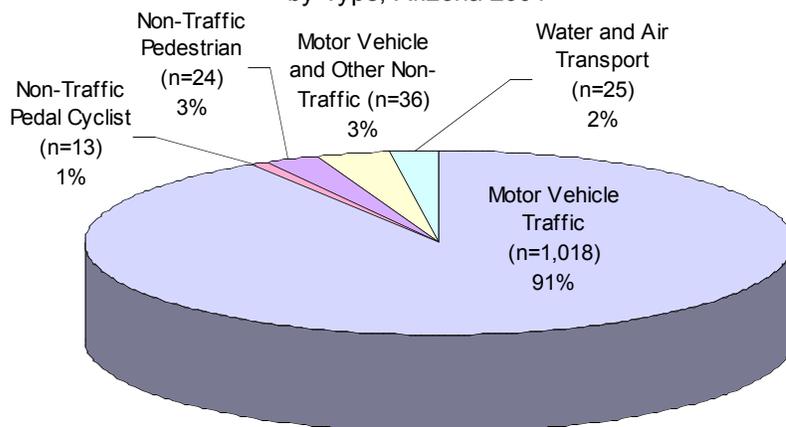
² CDC. Working to prevent and control injury in the United States: fact book for the year 2000. Atlanta, GA: US Department of Health and Human Services, CDC, 2000.

³ Centers for Disease Control and Prevention, National Centers for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2005) {cited 2006 Feb 2}. Available from: www.cdc.gov/ncipc/wisqars.

⁴ Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, <http://www.cdc.gov/ncipc/whatsnew/matrix2.htm>, accessed on 10/28/05.

⁵ Centers for Disease Control and Prevention, National Center for Health Statistics, <http://www.cdc.gov/nchs/about/otheract/ice/matrix10sas.htm>, accessed on 10/28/05.

Figure 1. Unintentional Transport-Related Deaths by Type, Arizona 2004



Motor vehicle traffic injuries accounted for 79 percent (n=6,711) and motor vehicle non-traffic injuries accounted for 11 percent (n=927) of all transport-related hospitalizations.

Motor vehicle traffic injuries accounted for 77 percent (n=46,167) of all transport-related emergency department visits. Non-traffic pedal cyclist injuries accounted for 11 percent (n=6,744) and motor vehicle non-traffic injuries accounted for 8 percent (n=4,782) of all transport-related emergency department visits.

Interventions to prevent motor vehicle injuries have been in effect for some time. Even so, motor vehicle injuries continue to exact a substantial toll on the lives and pocketbooks of residents in Arizona and nationwide. Based on National Safety Council estimates, the annual economic loss due to traffic injuries in the state was nearly \$3.3 billion in 2004 based on 2003 dollars. In the United States during 2000, motor vehicle injuries accounted for 22 percent of the total costs of injuries (\$89 billion) and resulted in the greatest total lifetime costs among adults ages 25-44 (nearly \$38 billion).⁶

Oversight for the state of Arizona effort is primarily the responsibility of the Governor's Office of Highway Safety (GOHS). However, there are many contributors to this effort working with the GOHS including the Arizona Department of Transportation, Arizona Department of Health Service, American Automobile Association (AAA) of Arizona, Arizona Driver and Safety Education Association, Arizona County Sheriff's Association, Arizona Police Chiefs Association, Arizona Safe Kids Coalition, Mothers Against Drunk Driving (MADD), Students Against Destructive Decisions (SADD), Inter-Tribal Council of Arizona, National Safety Council, Professional Fire Fighters of Arizona, the

⁶ Finkelstein EA, Corso PS, Miller TR, Associates. Incidence and Economic Burden of Injuries in the United States. New York: Oxford University Press; 2006.

Regional Planning Agencies, and others. The committee that brings all of these players together is the Governor's Traffic Safety Advisory Council. This council has recently completed a Transportation Safety Plan for Arizona, which contains emphasis areas to reduce the total number of fatalities and injuries resulting from motor vehicle crashes for the coming years.

LANE DEPARTURE

Lane departure-related crashes accounted for 45 percent of fatal crashes, almost half of all the reported fatal crashes within the State of Arizona in 2004.⁷ One of the most serious lane departure crashes is a "head-on collision" which occurs when a driver departs their travel lane and collides with an oncoming vehicle. Another lane departure crash that often results in fatalities and/or serious injuries is the "run-off-road" crash, where the driver loses control and the vehicle either collides with a fixed object or overturns.

INTERSECTIONS

The percentage of intersection-related injuries is higher in Arizona than national statistics. Intersection-related crashes accounted for 22 percent of Arizona's fatal crashes compared to 21 percent nationally.⁸ Intersections without traffic signals in urban areas accounted for 8 percent of Arizona's fatal crashes compared to 3 percent of the nation's fatal crashes.⁸

PEDESTRIANS

Arizona ranks among the top five states with the highest pedestrian fatality rate.⁷ In 2004, there were 2.3 fatalities per 100,000 population while the national average was 1.67 fatalities per 100,000 population.⁷ Of the nation's cities with greater than 100,000 people, Phoenix ranked fifth in the number of pedestrian fatalities between 2002 and 2004.⁷

In 2004, pedestrian crashes accounted for 12 percent of fatal crashes.⁷ Approximately one quarter of the pedestrians were intoxicated.⁷ Of the pedestrian fatalities, 62 percent died when crossing the roadway and 67 percent occurred in darkness.⁷

There were 756 pedestrian-related hospitalizations in Arizona during 2004. Among these hospitalizations, 90 percent (n=682) involved a motor vehicle traffic event. Additionally, there were 1,840 pedestrian-related emergency department

⁷ Transportation Safety Plan for the State of Arizona, Governor's Traffic Safety Advisory Council, 2004.

⁸ NCHRP Report 500, Volume 5, page I-2 based on FARS data.

visits. Of these injuries, 84 percent (n=1,548) involved a motor vehicle traffic event.

BICYCLISTS

In Arizona, about 2.7 percent of all reported motor vehicle crashes during 2004 included a pedestrian or bicyclist.⁷ About 1.3 percent of bicyclist crashes were fatal.⁷

There were 689 pedal cycle-related hospitalizations in Arizona during 2004. Of these hospitalizations, 67 percent (n=465) did not involve a motor vehicle. In addition, there were 7,785 pedal cycle-related emergency department visits. Among these injuries, 87 percent (n=6,744) did not involve a motor vehicle.

Bicycle helmets reduce head injuries and deaths by up to 85 percent,⁹ yet many riders do not wear bicycle helmets. According to the 2005 Arizona Youth Risk Behavior Survey, among students who rode a bicycle during the last 12 months, 87.3 percent never or rarely wore a bicycle helmet.

DRIVER BEHAVIOR

Addressing driver behavior is the most critical issue in reducing fatal and serious injury crashes. In 2004, among the fatalities due to motor vehicle events, 75 percent were motor vehicle occupants, and of those occupants, 62 percent were not using a seatbelt or child restraint.⁷ Furthermore, among the motor vehicle (non-bike, motorcycle) fatal crashes, 24 percent involved drivers who were alcohol impaired and 40 percent involved drivers (non-motorcycle) who were driving too fast or exceeding the speed limit.⁷

Driver behavior is also a critical component in preventing deaths among children. According to the Child Fatality Review Program, drugs/alcohol, vehicle restraints, driver inexperience, and driving at high speeds, were among the five most frequently identified risk factors associated with preventable childhood deaths in 2004.

According to the 2005 Youth Risk Behavior Survey, 13.9 percent of ninth through twelfth grade students in Arizona never or rarely wore a seat belt while riding in a car driven by someone else. In addition, 34.3 percent of high school students had been in a vehicle with an intoxicated driver in the month before the survey and 12.4 percent reported driving a vehicle after they had been drinking.

⁹ State and Territorial Injury Prevention Directors Association (STIPDA). Bicycle Fact Sheet. http://www.stipda.org/template300.cfm?sub_cat=300, accessed 01/17/2006.

MOTORCYCLIST BEHAVIOR

Recent data indicates that deaths and injuries attributable to motorcycle crashes are on the rise. In 2004, Arizona's motorcycle fatalities increased 26 percent from 2003.⁷ The effect of a crash involving a motorcycle can be devastating. While 37 percent of passenger vehicle crashes result in injury or death, an astounding 83 percent of motorcycle crashes result in injury or death.⁷

According to the National Highway Traffic Safety Administration's (NHTSA) National Occupant Protection Use Survey (NOPUS), a nationally representative observational survey of motorcycle helmet, safety belt, and child safety seat use, helmet use fell from 71 percent in 2000 to 58 percent in 2004. This drop is statistically significant and corresponds to a striking 45 percent increase in non-use. In Arizona, 65 percent of motorcycle fatalities were not wearing helmets.⁷

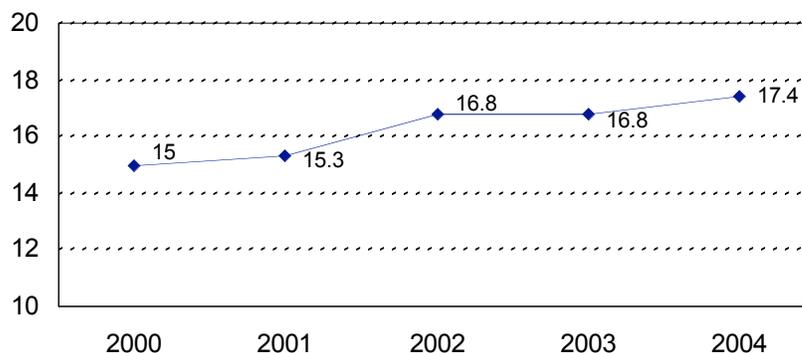
DEATH TRENDS FOR MOTOR VEHICLE TRAFFIC INJURIES

Motor vehicle traffic injuries comprise the majority of transport-related deaths, hospitalizations, and emergency department visits. The remainder of this chapter will focus primarily on motor vehicle traffic injuries among motor vehicle occupants, motorcyclists, pedestrians, and pedal cyclists involved in any motor vehicle event on a public road or highway. Motor vehicle traffic injuries are the leading cause of unintentional deaths in Arizona.

There were 1,018 deaths from motor vehicle traffic injuries in Arizona during 2004. In addition, there were 6,711 inpatient hospitalizations and 46,167 emergency room visits for motor vehicle traffic injuries. It is important to note that the Arizona Health Status and Vital Statistics and the Arizona Department of Transportation include motor vehicle non-traffic events in their tabulation of motor vehicle injuries. For the purposes of this report, only motor vehicle traffic injuries are reported.

As seen in Figure 2, there appears to be a rise in mortality rates for unintentional motor vehicle traffic injuries in Arizona. The age-adjusted mortality rate in 2000 was 15.0 per 100,000 compared to 17.4 in 2004.

Figure 2. Age-Adjusted Mortality Rates per 100,000 for Motor Vehicle Traffic Injuries, Arizona, 2000-2004



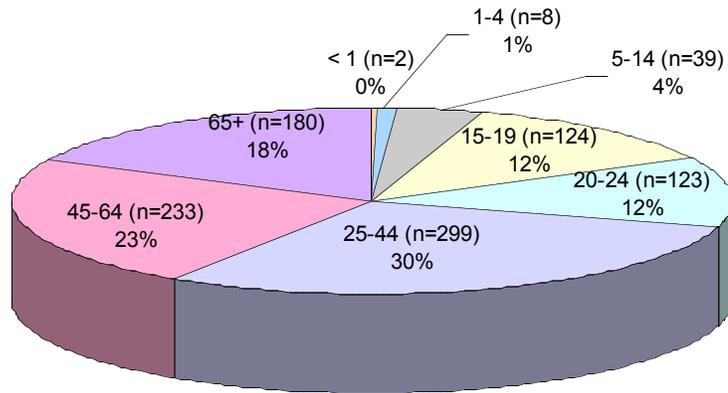
According to the most recent statistics available, Arizona's age-adjusted death rate for unintentional motor vehicle traffic injuries exceeds the national rate. In 2003, the national age-adjusted death rate was 14.8 per 100,000 for unintentional motor vehicle traffic injuries compared to 16.8 per 100,000 in Arizona that same year.¹⁰

DEATHS FROM MOTOR VEHICLE TRAFFIC INJURIES

Among the 1,018 unintentional motor vehicle traffic injury deaths, 65 percent were males (n=662) and 35 percent were females (n=356). Motor vehicle traffic deaths were spread throughout the various age groups. Adults age 25-44 accounted for 30 percent (n=299), 15-24 year olds accounted for 24 percent (n=247), and adults 45-64 accounted for 23 percent (n=233) of motor vehicle traffic deaths. Figure 3 shows the age distribution of Arizona residents who died from motor vehicle traffic injuries during 2004.

¹⁰ Centers for Disease Control and Prevention, National Centers for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2005) {cited 2006 Feb 2}. Available from: www.cdc.gov/ncipc/wisqars.

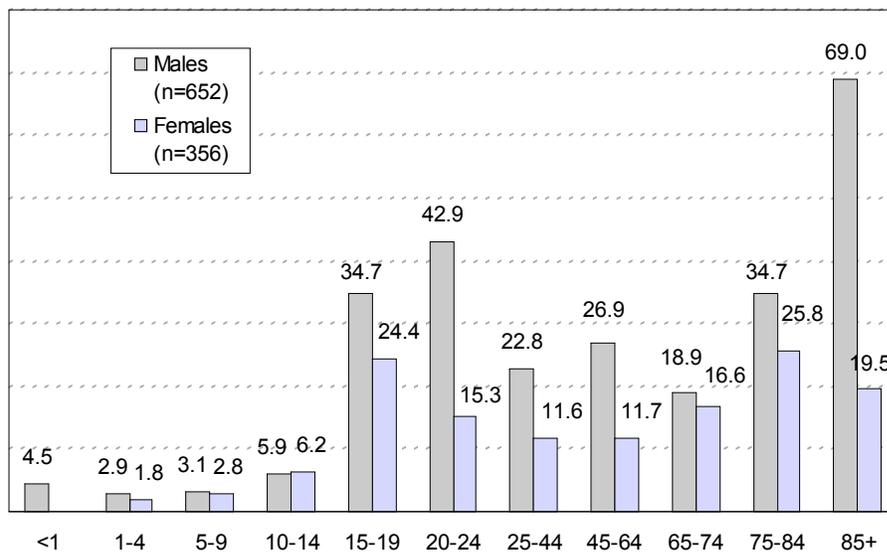
Figure 3. Motor Vehicle Traffic-Related Deaths by Age Group, Arizona 2004



Does not include 10 males with unknown age

Males over the age of 85 had the highest rate of motor vehicle traffic deaths (69.0 per 100,000) and represented 18 deaths. Additionally, injuries that may be survivable by younger individuals may be more likely to lead to death in older adults. Figure 4 shows the 2004 death rates by age group and gender for Arizona residents.

Figure 4. Unintentional Motor Vehicle Traffic-Related Death Rates per 100,000 Population, Arizona 2004

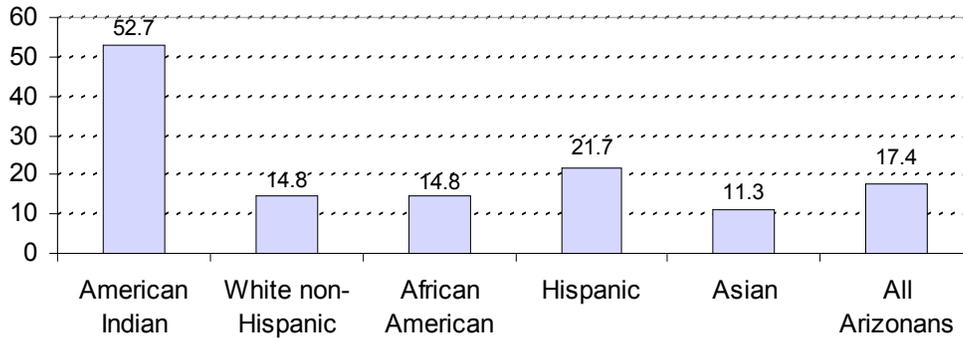


Does not include 10 males with unknown age

There are substantial racial/ethnic differences in unintentional motor vehicle traffic-related death rates in Arizona. Death rates were considerably higher among American Indians (52.7 per 100,000) and lowest for Asians (11.3 per

100,000). Figure 5 below shows the 2004 age-adjusted motor vehicle traffic-related death rates by race/ethnicity in Arizona.

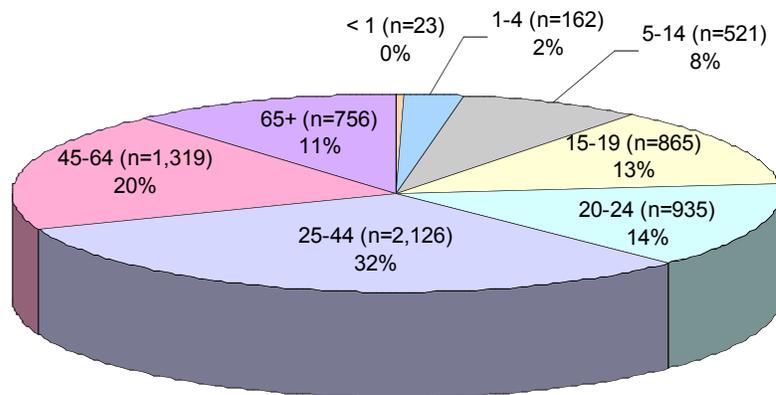
Figure 5. Age-Adjusted Unintentional Motor Vehicle Traffic-Related Death Rates per 100,000 by Race/Ethnicity, Arizona 2004



INPATIENT HOSPITALIZATIONS FOR MOTOR VEHICLE TRAFFIC INJURIES

There were 6,711 inpatient hospitalizations for motor vehicle traffic injuries among Arizona residents in 2004; 61.5 percent were males (n=4,128), 38.5 percent were females (n=2,582), and one case had an unknown gender. Of those hospitalized for motor vehicle traffic injuries, 158 died. Adults age 25-44 accounted for 32 percent (n=2,126) and 15-24 year olds accounted for 27 percent (n=1,800) of hospitalizations for motor vehicle traffic-related injuries. Figure 6 shows the age distribution of Arizona residents who were hospitalized for motor vehicle traffic injuries during 2004.

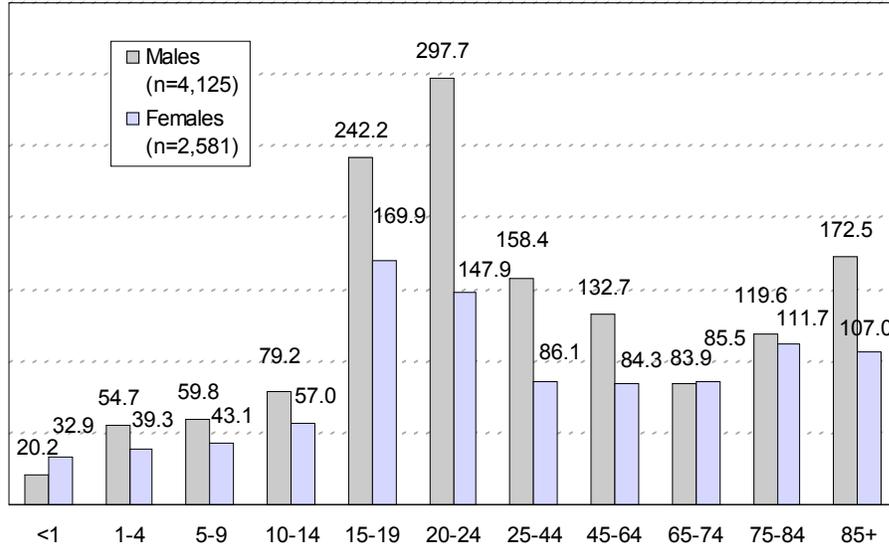
Figure 6. Motor Vehicle Traffic-Related Inpatient Hospitalizations by Age Group, Arizona 2004



Does not include 4 cases with unknown age

Males age 20-24 had the highest hospitalization rate for motor vehicle traffic-related injuries (297.7 per 100,000). Figure 7 shows the 2004 hospitalization rates by age group and gender for Arizona residents.

Figure 7. Unintentional Motor Vehicle Traffic-Related Inpatient Hospitalization Rates per 100,000 Population, Arizona 2004

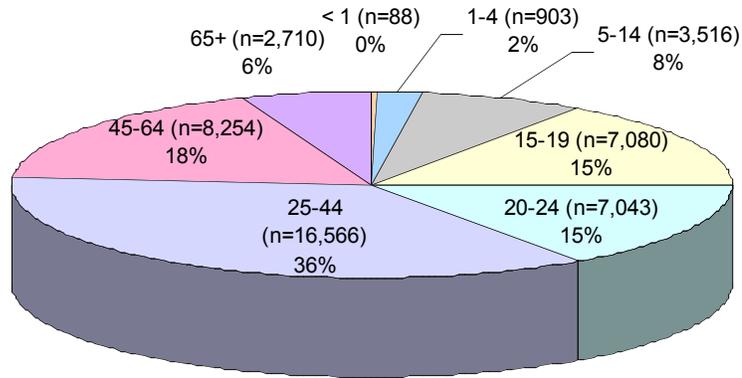


Does not include four cases with unknown ages (three male and one female) and one case with unknown gender

EMERGENCY DEPARTMENT VISITS FOR MOTOR VEHICLE TRAFFIC INJURIES

There were 46,167 emergency department visits for motor vehicle traffic injuries among Arizona residents in 2004; 47 percent were males (n=21,861), 53 percent were females (n=24,304), and two cases had an unknown gender. Of those who were seen in the emergency department for motor vehicle injuries, 92 died. Adults age 25-44 accounted for 36 percent (n=16,566) and 15-24 year olds accounted for 30 percent (n=14,123) of visits to the emergency department for motor vehicle traffic-related injuries. Figure 8 shows the age distribution of Arizona residents who were seen in the emergency department for motor vehicle traffic injuries during 2004.

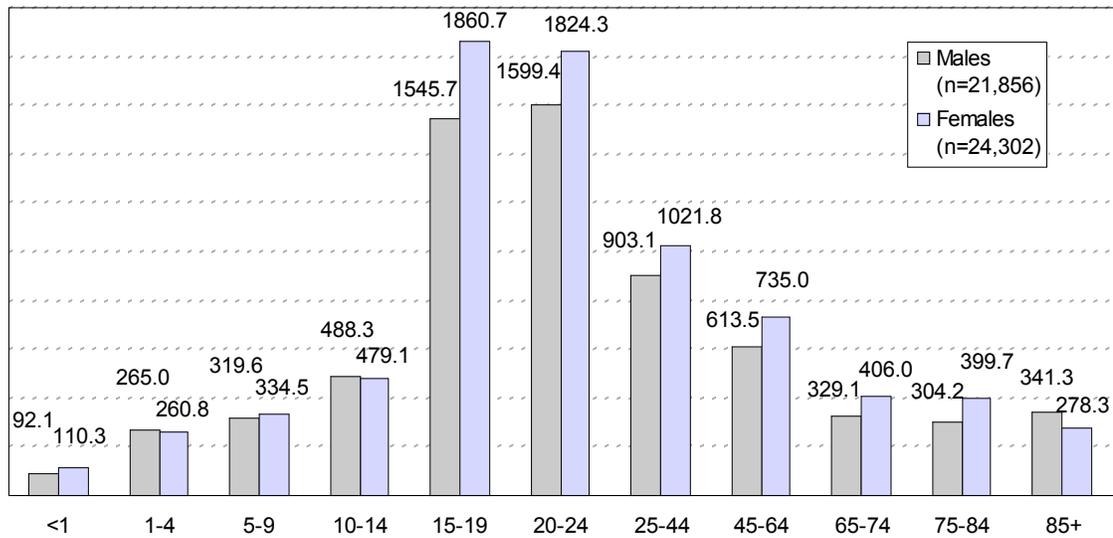
Figure 8. Motor Vehicle Traffic-Related Emergency Department Visits by Age Group, Arizona 2004



Does not include seven cases with unknown age

Males and females in both the 15-19 and 20-24 age groups had comparable emergency department visit rates due to motor vehicle traffic-related injuries. Unlike hospitalizations, females age 15-19 had the highest motor vehicle traffic-related emergency department visit rate (1860.7 per 100,000). Figure 9 shows the 2004 emergency department visit rates by age group and gender for Arizona residents.

Figure 9. Unintentional Motor Vehicle Traffic-Related Emergency Department Visit Rates per 100,000 Population, Arizona 2004



Does not include 2 cases with unknown gender, 2 female cases with unknown age, and 5 male cases with unknown age

EXISTING SURVEILLANCE SYSTEMS

In addition to death certificates, hospital discharge database, and emergency department database, the Arizona Department of Transportation also monitors motor vehicle-related injuries.

SUMMARY/HIGHLIGHTS OF DATA

In Arizona during 2004:

- Motor vehicle traffic injuries are the leading cause of unintentional deaths.
- Motor vehicle traffic injuries accounted for 91 percent (n=1,018) of all transport-related deaths, 79 percent (n=6,711) of all transport-related hospitalizations, and 77 percent (n=46,167) of all transport-related emergency department visits.
- Among racial/ethnic groups, American Indians had the highest age-adjusted death rate due to motor vehicle traffic injuries (52.7 per 100,000).
- 15-24 year olds accounted for 24 percent (n=247) of deaths, 27 percent (n=1,800) of hospitalizations, and 30 percent (n=14,123) of emergency department visits due to motor vehicle traffic-related injuries.
- Young males age 20-24 had the highest hospitalization rates from motor vehicle traffic-related injuries (297.7 per 100,000).
- Young females age 15-19 had the highest emergency department visit rates due to motor vehicle traffic-related injuries (1860.7 per 100,000).

CURRENT INTERVENTIONS

The Transportation Safety Plan for Arizona focuses on a targeted group of emphasis areas to be implemented during the next 3 to 5 years. Implementation of the emphasis areas are guided by a set of identified strategies and action plans, and are monitored by the Arizona Executive Transportation Safety Committee, with periodic reports to the Governor's Traffic Safety Advisory Council. To achieve the primary goal of this plan, data-driven emphasis areas have been identified to reduce the number of fatal and serious injury crashes. For each emphasis area, comprehensive and coordinated strategies and initiatives based on the 4 E's (Engineering, Enforcement, Education, and Emergency Response) will be developed and implemented.

Arizona's Crash Outcome Data Evaluation System (CODES) evolved from a congressional mandate to report on the benefits of safety belts and motorcycle

helmets. The National Highway Traffic Safety Administration currently provides funds for 33 states to link statewide crash and injury data.

The purpose of the linkage is to find out who's injured in motor vehicle crashes, what types of injuries occur, and how much it costs to treat these injuries over time. Large numbers of computerized state crash and injury records are linked in a short amount of time using probabilistic linkage techniques.

ACCOMPLISHMENTS

- Thousands of child car seat/motor vehicle safety classes have been conducted.
- 14,578 child safety seats were distributed and installed in 2004 alone. Each family received education and information on how to properly use their child safety seat by certified child passenger safety technicians.
- 2,373 child safety seats were distributed by Native American certified child passenger safety technicians in Tribal communities to families in need.
- 913 child bicycle helmets were distributed in Cochise County.
- Apache, Navajo and Pinal Counties implemented an alcohol awareness/motor vehicle safety program targeting high school students.
- Ongoing collaboration occurs among these agencies /organizations: Governor's Office of Highway Safety, fire and police departments, hospitals, Indian Health Services, Tribal Communities, Inter Tribal Council of Arizona, WIC, Head Start, Arizona Emergency Nurses Association, Department of Public Safety, MADD, teen mother's programs, United States Marshall's Office, Catholic Social Services, churches and schools.

STRATEGIC PLAN FOR 2006-2010

Injury Name: Motor Vehicle Accidents		
Objective #1: Reduce the total number of fatalities and injuries resulting from motor vehicle crashes by keeping vehicles in the proper lane and minimize the effects of leaving the travel lane		
Strategic Interventions	Action Steps	Key Partners
1) Promote and implement road safety audits and road safety corridor and intersection programs	<ul style="list-style-type: none"> • Identify locations with a disproportionately large number of crashes, such as: run-off-road and head-on crashes • Improve traffic conditions in identified corridors and local jurisdictions by funding minor traffic engineering improvements, correcting signing deficiencies and promoting safety programs • Work with Arizona Department of Transportation (ADOT) and municipal street and transportation departments to review and identify infrastructure, traffic signals and sign improvements from a senior driver vantage point • Conduct safety reviews of proposed Light Rail Transit and Bus Rapid Transit operations starting at the design stage 	Governor's Traffic Safety Advisory Council, Governor's Office of Highway Safety, Arizona Department of Transportation
Objective #2: Reduce the total number of fatalities and injuries resulting from motor vehicle crashes by improving intersection safety		
Strategic Interventions	Action Steps	Key Partners
1) Promote and implement road safety audits and road safety corridor and intersection programs 2) Promote photo enforcement at intersections and/or signage of enforcement activities	<ul style="list-style-type: none"> • Participate in intersection safety audits through engineering and enforcement efforts • Identify intersections with a disproportionately large number of fatal and serious injuries crashes • Improve traffic conditions in identified corridors and local jurisdictions by funding minor traffic engineering improvements, correcting signing deficiencies and promoting safety programs • Work with ADOT and municipal street/transportation departments to review and identify infrastructure, traffic signals and sign improvements from a senior driver vantage point 	Governor's Traffic Safety Advisory Council, Governor's Office of Highway Safety, Arizona Department of Transportation

Strategic Interventions	Action Steps	Key Partners
Objective #3: Reduce the total number of fatalities and injuries resulting from motor vehicle crashes by improving pedestrian and bicyclist safety		
1) Implement community/school-based initiatives for safe mobility	<ul style="list-style-type: none"> • Improve safety on access routes to schools • Develop strategies to support national initiative of “Safe Routes to School” • Continue to promote and expand the adult school crossing guard program • Encourage policy related to helmet use • Support school and community education programs related to bicycle and pedestrian safety 	Governor’s Traffic Safety Advisory Council, Governor’s Office of Highway Safety, Arizona Department of Transportation, ADHS Safe Kids and partners, Indian Health Services, Inter-Tribal Council of Arizona
Objective #4: Reduce the total number of fatalities and injuries resulting from motor vehicle crashes by decreasing the incidence of impaired driving and risk-taking behaviors		
1) Implement issue-based targeted enforcement and education	<ul style="list-style-type: none"> • Target drinking and driving and drug impaired driving among 15-20 yr olds • Enhanced enforcement of underage drinking • Promote educational programs that address the risk of underage drinking • Support the DUI Task Force efforts • Support the DPS Certified Drug Recognition Expert (DRE’s) Program and aggressively enforce laws relating to drug impaired driving • Support specialized mobilization efforts enforcing impaired driving laws in Arizona • Achieve and maintain compliance with traffic laws such as aggressive driving, speeding, and red light running • Promote the use of safety devices (helmets and occupant protection restraints) • Support policy for enhanced occupant safety laws • Promote photo enforcement at intersections and/or signage of enforcement activities 	Governor’s Traffic Safety Advisory Council, Governor’s Office of Highway Safety, Arizona Department of Transportation, ADHS Safe Kids and partners Indian Health Services, Inter-Tribal Council of Arizona

Strategic Interventions	Action Steps	Key Partners
2) Strengthen driving and licensing standards	<ul style="list-style-type: none"> • As per the GTSAC's Transportation Safety Plan for the State of Arizona 	<p>Governor's Traffic Safety Advisory Council, Governor's Office of Highway Safety, Arizona Department of Transportation, ADHS</p>
<p>Objective #5: Reduce the total number of fatalities and injuries resulting from motor vehicle crashes by improving data and information for decision making</p>		
1) Improve traffic records and adequate data surveillance of motor vehicle crashes	<ul style="list-style-type: none"> • Create Traffic Records Coordinating Committee • Improve data collection, data quality, analysis processes, and systems including the connection between crash and roadway data and Computer Automated Dispatch • Complete ADOT research group's safety data sharing study • Develop a comprehensive data processing system that brings together multi-disciplinary task force • Support Arizona's Crash Outcome Data Evaluation System (CODES) • Develop a reliable and efficient method to assess the safety performance of Arizona's transportation system • Support Federal Motor Carriers Safety Administration's (FMCSA) State Safety Data Quality Analysis which evaluates the completeness, timeliness, accuracy and consistency of the state-reported crash and roadside inspection data in the Motor Carrier Management Information System • Collect and analyze EMS data 	<p>Governor's Traffic Safety Advisory Council, Governor's Office of Highway Safety, Arizona Department of Transportation, ADHS, Arizona State University, Indian Health Services, Inter-Tribal Council of Arizona</p>

UNINTENTIONAL FALLS

BACKGROUND

Injuries from falls can be either intentional or unintentional. This chapter focuses on unintentional falls. Injuries from intentional falls—whether self-inflicted or the result of interpersonal violence—require different strategies for intervention and prevention. Injuries from intentional falls are addressed in other chapters in this Injury Plan.

Falls are the leading cause of unintentional injury-related inpatient hospitalizations and emergency department visits. In 2004, falls were the third leading cause of unintentional injury-related deaths for all age groups and the leading cause for those 65 and older. The age-adjusted mortality rate for unintentional falls in Arizona was 9.6 per 100,000 population in 2004, which is considerably higher than the Healthy People 2010 established target of 3.0 deaths per 100,000.

Unintentional fall-related injuries occur in the home, workplace, institutions, and places of recreation. Effective fall prevention strategies differ by settings of occurrence. Occupational injuries are an important area within unintentional fall-related injuries and one of the gaps that needs to be addressed in the future in collaboration with other state agencies.

Factors determining the probability of a serious injury after a fall include the distance of the fall, the landing surface, orientation on falling, and whether the fall was broken. Nationally, the majority of nonfatal unintentional falls (55.6 percent) occur in the home, 43.5 percent occur in a location other than home, and less than 1 percent occur in an unknown location.¹ Although only 52.4 percent of hospitalizations for unintentional falls in Arizona were coded for place of injury, results are similar to national data.

Unintentional falls are the leading cause of non-fatal injury for children ages 0-14, the third leading cause for 15-24 year olds, and returns to the leading cause of non-fatal injury for adults over age 25.² The National Safety Council reports that falls are the leading cause of nonfatal injury treated in hospital emergency departments and of those who survive a fall, 20-30 percent will suffer debilitating injuries that affect them the rest of their lives.

Infants are at greater risk from falls associated with furniture, stairs, and baby walkers. Toddlers are at risk from window-related falls and older children tend to

¹Home Safety Council, *The State of Home Safety in America: Facts About Unintentional Injuries in the Home*, Second Edition, 2004.

²CDC, <ftp://ftp.cdc.gov/pub/ncipc/10LC-2001/PPT/10lc-nonfatal.ppt>.

suffer from playground equipment-related falls. More than 80 percent of fall-related injuries among children ages 4 and under occur in the home.³ Among children ages 5-14, 45 percent of fall-related injuries occur in the home and 23 percent occur at school.³

Risk for injuries related to falls increases significantly with age. Older adults over the age of 85 have the highest rates of falls with injuries. Factors that contribute to falls for older adults include problems with walking and balance, physical disabilities, use of medications, dementia, poor vision, and safety hazards in the home. The types of injuries that older adults usually suffer are fractures (breaks in bones) and injuries to the head.

Arizona has a growing population of older adults and the issue of injuries and deaths from falls is significant. Of adults 65 and older living independently in the community, more than one-third fall each year.^{4,5} Although not all falls result in death or injury, every fall sustained by an older person compromises his/her sense of security and ability to continue living independently. Falls among older adults frequently increase fear of future falls that result in a tendency to restrict their own activity and mobility. Increased age often results in increased severity and impacts the ability to heal following a fall-related injury.

Injuries from falls are a high cost public health issue. In 2000, fall injuries accounted for 20 percent of the total costs of injuries in the United States (\$81 billion).⁶ Additionally, falls resulted in the greatest total lifetime costs among children and adolescents ages 5-14 (more than \$10 billion), adults ages 45-64 (nearly \$18.5 billion), and adults ages 65 and older (more than \$19 billion).

There were 526 deaths from unintentional falls in Arizona in 2004. In addition, there were 13,510 inpatient hospitalizations and 97,624 emergency room visits due to fall-related injuries.

DEATH TRENDS FOR UNINTENTIONAL FALLS

As seen in Figure 10 there appears to be a rise in mortality rates for unintentional falls in Arizona. The age-adjusted mortality rate in 2000 was 7.6 per 100,000 compared to 9.6 in 2004.

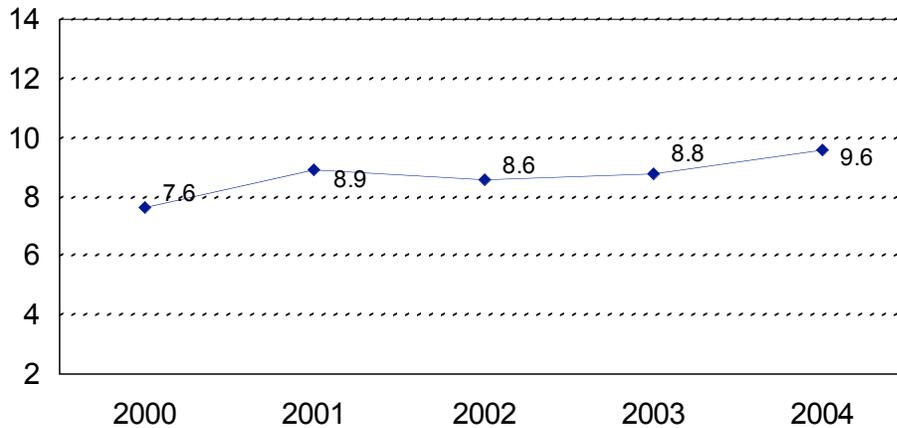
³National SAFE KIDS Campaign (NSKC). *Fall Fact Sheet*. Washington (DC): NSKC, 2004.

⁴Hausdorff JM, Rios DA, Edelber HK. Gait variability and fall risk in community-living older adults: a 1-year prospective study. *Archives of Physical Medicine and Rehabilitation* 2001;82(8):1050-6.

⁵Hornbrook MC, Stevens VJ, Wingfield DJ, Hollis JF, Greenlick MR, Ory MG. Preventing falls among community-dwelling older persons: results from a randomized trial. *The Gerontologist* 1994;34(1):16-23.

⁶Finkelstein EA, Corso PS, Miller TR, Associates. *Incidence and Economic Burden of Injuries in the United States*. New York: Oxford University Press; 2006.

Figure 10. Age-Adjusted Mortality Rates for Unintentional Falls, Arizona, 2000-2004



Source: Arizona Health Status and Vital Statistics 2000-2004

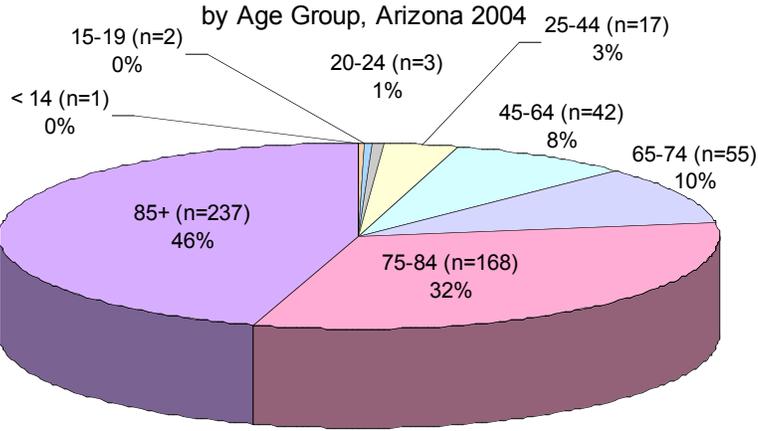
While the 2004 rate is not yet available for a national comparison, the Arizona age-adjusted rate for 2003 of 8.8 is considerably higher than the 2003 national age-adjusted death rate of 5.8 per 100,000 for unintentional falls.⁷

DEATHS FROM FALLS

Among the 526 unintentional falls deaths, 45.6 percent were males (n=240), and 54.4 percent were females (n=286). In Arizona, adults 65 and older represent 13 percent of the overall population, yet they account for 88 percent (n=460) of all fall-related deaths. Only one percent of deaths related to unintentional falls (n=6) occurred in children or adolescents under the age of 25. Figure 11 shows the age distribution of Arizona residents who died from fall-related injuries during 2004.

⁷Centers for Disease Control and Prevention, National Centers for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2005) {cited 2006 Feb 2}. Available from: www.cdc.gov/ncipc/wisqars.

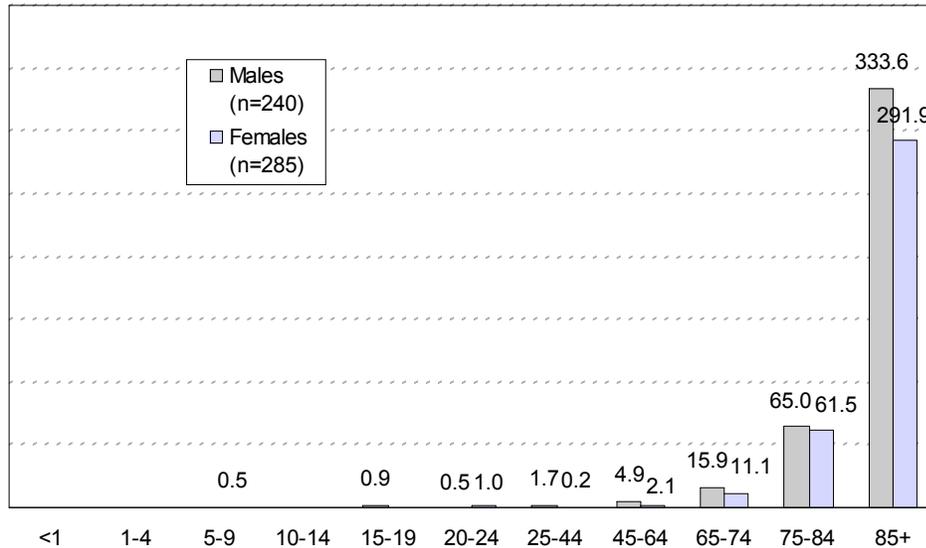
Figure 11. Unintentional Fall-Related Deaths



Does not include one female with unknown age

Death rates for unintentional fall-related injuries are highest for males 85 years of age and older (333.6 per 100,000). However, there are more females than males in this age group. Nearly twice as many females over the age of 85 died (151 females compared to 87 males) from unintentional fall-related injuries. Figure 12 shows the 2004 death rates for falls by age group and gender per 100,000 population for Arizona residents.

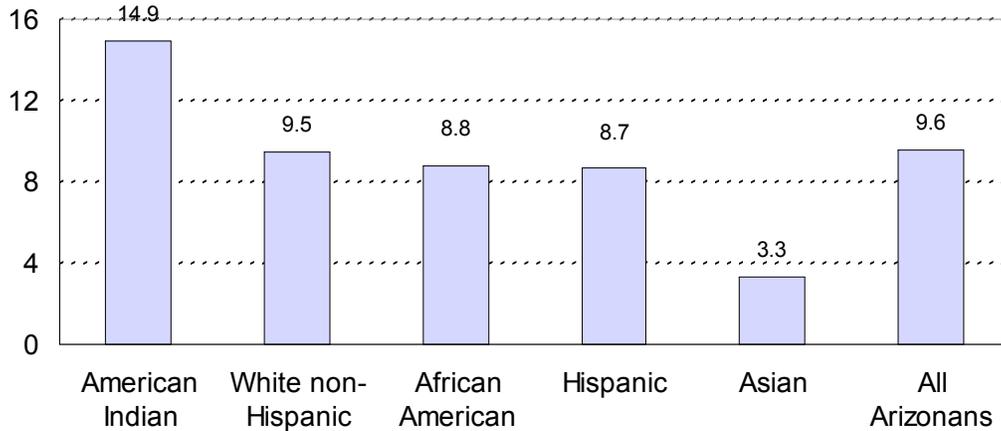
Figure 12. Unintentional Fall-Related Death Rates per 100,000 Population, Arizona 2004



Does not include one female with unknown age

Unintentional fall-related death rates also differ by race/ethnicity in Arizona. The 2004 age-adjusted death rates were highest among American Indians (14.9 per 100,000) and lowest for Asians (3.3 per 100,000). Figure 13 below shows the 2004 age-adjusted rates for fall-related deaths by race/ethnicity in Arizona.

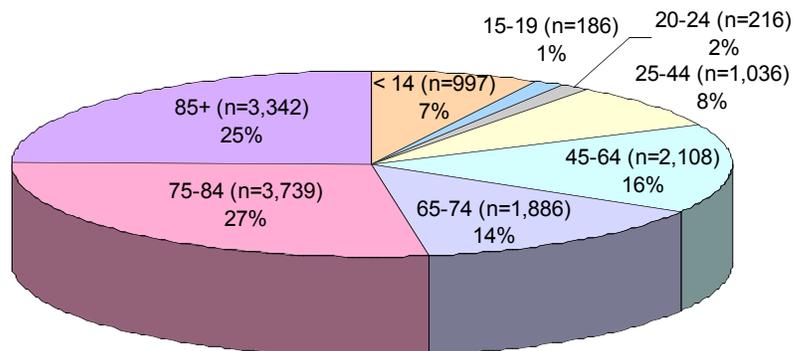
Figure 13. Age-Adjusted Unintentional Fall-Related Death Rates per 100,000 by Race/Ethnicity, Arizona 2004



INPATIENT HOSPITALIZATIONS FOR FALLS

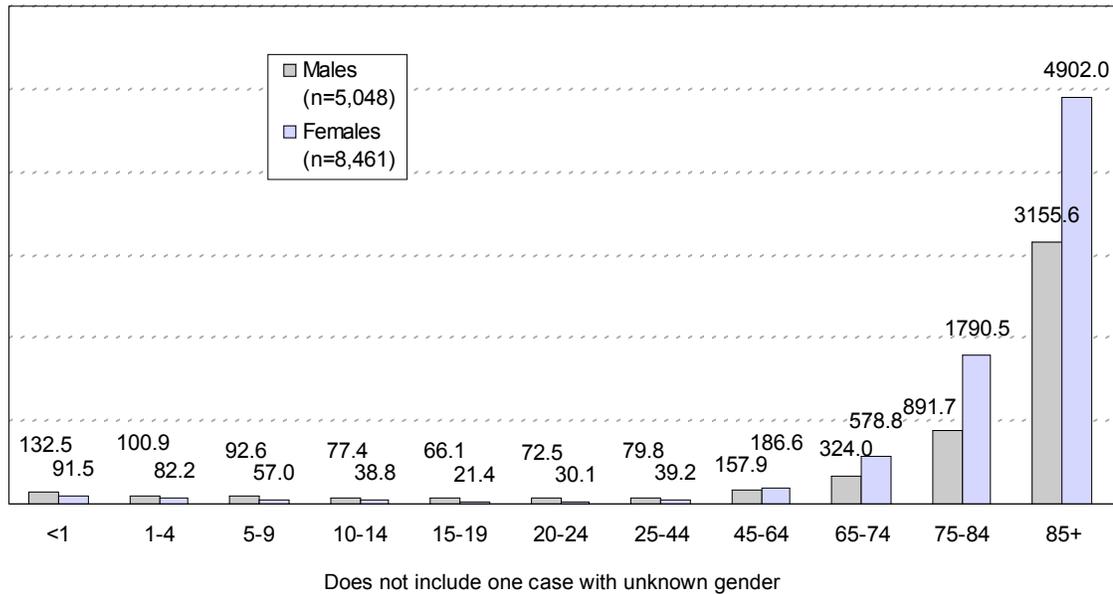
Falls were the leading cause of injury-related hospitalizations of Arizona residents in 2004, totaling 13,510 or 36 percent of all injury hospitalizations, 18 percent more than hospitalizations for motor vehicle traffic injuries. Among the 13,510 inpatient hospitalizations for falls, 37.4 percent were males (n=5,048), 62.6 percent were females (n=8,461), and one case had an unknown gender. Of those hospitalized for unintentional falls, 221 died. Sixty-six percent (n=8,967) of the inpatient hospitalizations were residents in the 65 and older age group. Figure 14 shows the age distribution of Arizona residents who were hospitalized for falls during 2004.

Figure 14. Unintentional Fall-Related Inpatient Hospitalizations by Age Group, Arizona 2004



The age-adjusted hospitalization rate for unintentional fall-related injuries was 239.3 per 100,000 population in 2004. As with unintentional fall-related deaths, older adults had the highest hospitalization rates for these injuries. Females over the age of 85 had the highest hospitalization rate for unintentional fall-related injuries (4902.0) per 100,000 population). Figure 15 shows the 2004 hospitalization rates for fall-related injuries by age group and gender for Arizona residents.

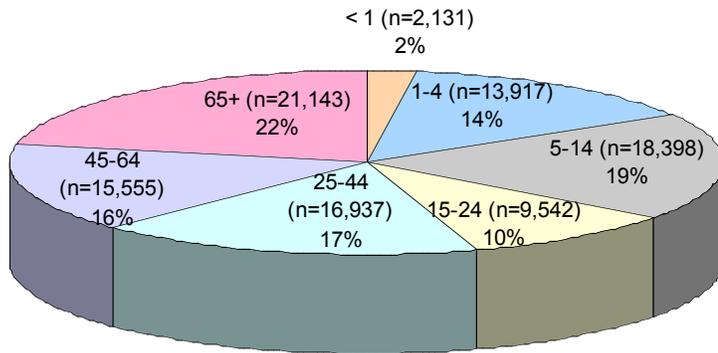
Figure 15. Unintentional Fall-Related Inpatient Hospitalization Rates per 100,000 Population, Arizona 2004



EMERGENCY DEPARTMENT VISITS FOR FALLS

There were 97,624 emergency department visits for falls among Arizona residents in 2004; 47.2 percent were males (n=46,029), 52.8 percent were females (n=51,590), and less than 1 percent were of an unknown gender (n=5). Of those who were seen in the emergency department for unintentional fall-related injuries, 14 died. Persons over the age of 65 accounted for 22 percent (n=21,143) of emergency room visits. The largest number of emergency room visits consisted of children ages 14 and under accounting for 35 percent (n=34,446) of unintentional fall-related emergency department visits. Figure 16 shows the age distribution of Arizona residents who were seen in the emergency department for falls during 2004.

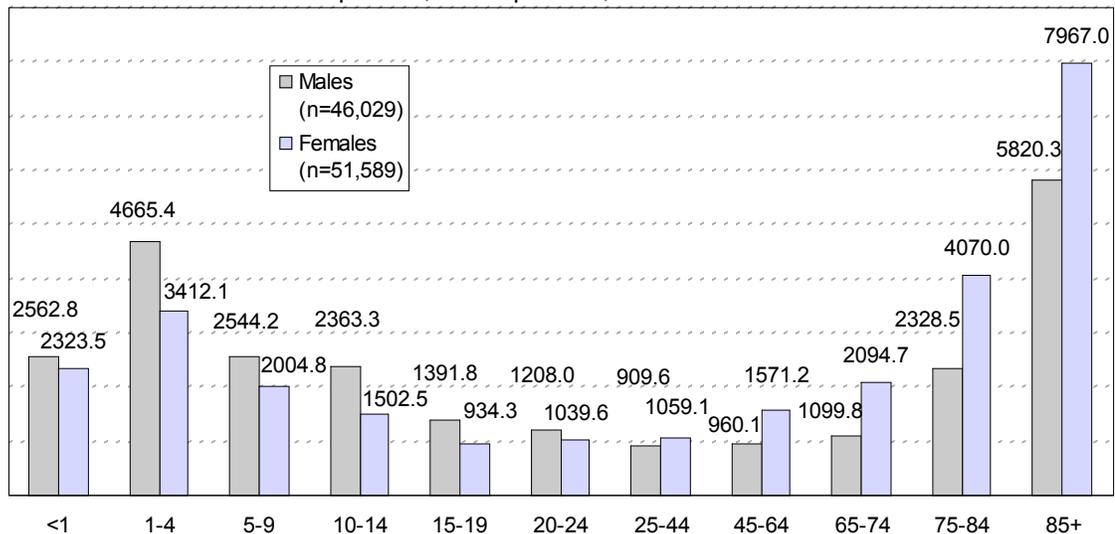
Figure 16. Unintentional Fall-Related Emergency Department Visits by Age Group, Arizona 2004



Does not include one female with unknown age

The 2004 age-adjusted emergency room visit rate for unintentional fall-related injuries in Arizona was 1,685.8 per 100,000. Emergency room visit rates for these injuries were higher at both ends of the life span, but highest among older adults. It should be noted that the numbers of emergency department visits for unintentional fall-related injuries are highest for children ages 14 and under, who comprised 35 percent of these visits. Figure 17 shows the 2004 emergency room visit rates for fall-related injuries by age group and gender for Arizona residents.

Figure 17. Unintentional Fall-Related Emergency Department Visit Rates per 100,000 Population, Arizona 2004

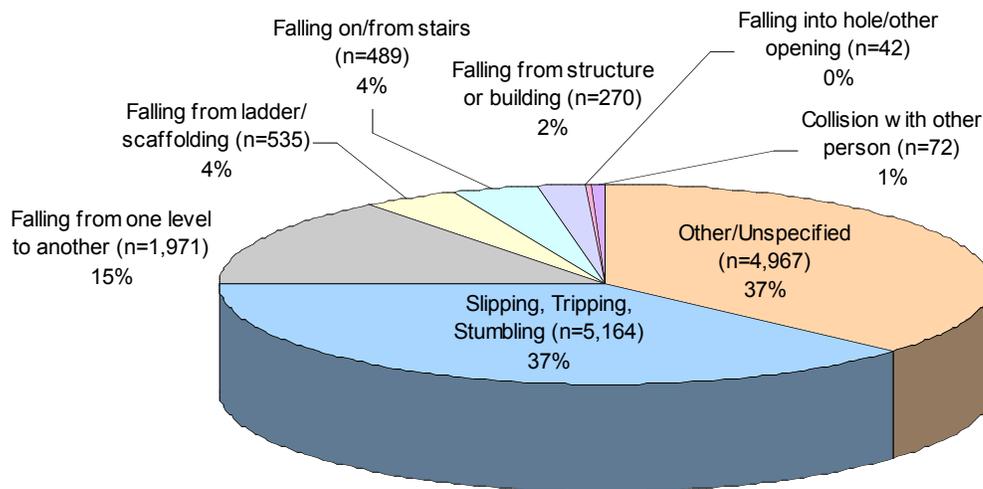


Does not include five cases with unknown gender and one female with unknown age

CIRCUMSTANCES CONTRIBUTING TO FALLS

Hospital and emergency room data may contain information on circumstances that contributed to the injury. For unintentional fall-related injuries, major categories of contributing event include: falling on/from stairs or steps, falling on/from a ladder or scaffolding, falling from a building, falling into a hole or other opening in surface including diving injuries, falling from one level to another, falling as a result of slipping, tripping or stumbling (includes falls from non-motorized scooters, skates, skis, snowboards), falling as a result of a collision with another person, and other/unspecified falls. Over one third of the inpatient hospitalization records for fall-related injuries were classified as other or unspecified. Therefore, each circumstance contributing to falls may be underrepresented. In Arizona during 2004, 37 percent (n=5,164) of unintentional fall-related hospitalizations were the result of slipping, tripping, or stumbling. Figure 18 shows the percentage of inpatient unintentional fall-related hospitalizations by contributing event.

Figure 18. 2004 Arizona Inpatient Hospitalizations by Contributing Event for Unintentional Falls, n=13,510



EXISTING SURVEILLANCE SYSTEMS

The primary sources for monitoring fall-related injuries include death certificate, inpatient hospital discharge, and emergency department databases.

SUMMARY/HIGHLIGHTS OF DATA

In Arizona during 2004:

- Children age 0 to 14 accounted for 35 percent (n=34,446) of emergency department visits due to falls.
- Young adults age 25 to 44 accounted for 17 percent (n=16,937) of emergency department visits.
- Among middle age adults 45 to 64 years, 42 deaths occurred due to an unintentional fall-related injury, and this age group accounted for 16 percent (n=2,108) of inpatient hospitalizations and emergency department visits (n=15,555).
- Older adults over age 65 accounted for 88 percent (n=460) of all unintentional fall-related deaths, 66 percent (n=8,967) of inpatient hospitalizations, and 22 percent (n=21,143) of emergency department visits.
- Among racial/ethnic groups, American Indians (14.9 per 100,000) had the highest unintentional fall-related death rate.

CURRENT INTERVENTIONS

Due to the complex nature of the circumstances surrounding falls, general approaches to prevention are interdisciplinary and multifaceted. As with all injury prevention efforts, interventions include education, environment or product modification, and legal or regulatory requirements.

One intervention for young children occurs within the OWCH Health Start Program. The program utilizes lay health workers to provide education, support, and advocacy services to pregnant/postpartum women and their families in targeted communities across the state. The lay health workers provide a safe child/safe home safety check to each program recipient.

Among older adults, the incidence of falls and injuries is common, often resulting in long-term pain and disability. Fall risk reduction involves identification of fall risk factors and specific interventions to decrease those risks.

Risk factors associated with falls include intrinsic factors (e.g., age-related physiological changes, impairments to the sensory-nervous system, disorders of the musculoskeletal system, and specific acute and chronic diseases) as well as extrinsic factors (e.g., medication side effects, environmental hazards and obstacles interfering with safe mobility). Fortunately, there are evidence-based interventions that can decrease the risk of falling and injury.

The most effective interventions to prevent falls for persons at moderate to high risk of falls are multi-factorial. Interventions include: home safety assessments, medication management, vision screening and physical activity. Exercise is one of the most important ways to reduce risk of falling by strengthening muscles, improving balance, and coordination. Lack of exercise leads to weakness and increases chances of falling.

In Arizona, various components of injury prevention and health promotion programs can be found at the state, county, and community level. Within ADHS, the Healthy Aging Initiative, Falls Prevention Initiative is a newly established effort to build a more powerful and coordinated infrastructure of falls prevention activities across Arizona.

Examples of community-based activities include Home Health agencies availability of home evaluations and fall risk assessments. Several regional Area Agency on Aging and Senior Centers provide public education and risk assessments for older adults. Fall risks are regularly assessed in long term care and assisted living facilities and interventions instituted. ADHS Division of Assurance and Licensure conducts surveillance of health care facilities to determine compliance with minimum standards in the area of injury prevention among residents. Physical activity programs targeting older adults are available in the community but may not focus on fall prevention.

ACCOMPLISHMENTS

ADHS, OWCH, and the Governor's School Readiness Board are collaborating to develop a statewide health and safety consultation system for child care providers. The School Readiness Board and the Governor's Office for Children, Youth, and Families has completed the "Arizona Health and Safety Policy Manual for Child Care Centers." This manual provides health and safety information and fill-in-the-blank policies and guidelines.

The OWCH Health Start Program has utilized lay health workers to provide a safe child/safe home safety check to each program recipient. The program also has supplied each contractor with the "Safety Starts at Home video".

In 2004, the ADHS Healthy Aging 2010 Initiative provided one time mini-grants focused on developing community awareness and education regarding the issue of injurious falls among older adults. Community based organizations and County Health Departments were among the recipients. Successes stemming from the mini-grants included coalition building in counties with large rural areas, expansion of physical activity programming and education, and educational opportunities for family caregivers.

The Healthy Aging Fall Prevention Initiative conducted a statewide survey to better determine current efforts and gaps in fall prevention activities statewide. Through this assessment, many partnerships among multiple disciplines were identified. The Initiative also plays a major role in promoting physical activity among older adults through the efforts of the Active Arizona Older Adult workgroup.

Presentations and meetings are being held to provide education and heighten awareness and identify stakeholders and potential partners for the development of a comprehensive statewide fall and injury prevention plan targeting older adults.

STRATEGIC PLAN FOR 2006-2010

INJURY NAME: UNINTENTIONAL FALLS		
OBJECTIVE #1: REDUCE DEATHS AND INJURIES FROM UNINTENTIONAL FALLS AMONG OLDER ADULTS.		
STRATEGIC INTERVENTION	ACTION STEPS	KEY PARTNERS
1) Develop a public education campaign to increase awareness of the incidence of injuries from falls among older adults.	<ul style="list-style-type: none"> • Develop a state wide common message on factors that increase risk for falls and injuries among older adults. • Develop a communication plan targeting high-risk populations. • Develop culturally-sensitive community-based information on the four strategies to reduce fall risk • Incorporate common fall and injury messaging across state agencies providing services to older adults 	Governor's Advisory Council on Aging Arizona Health Care Cost Containment System Arizona Department of Economic Services--Div of Adult and Aging Services Inter-Tribal Council of Arizona Health Services Advisory Group Area Agency on Aging Sr. Centers Emergency Medical Services Academia Gov Council on the Health Status of Women Foundation for Senior Living AZ Grant-making Foundations
2) Promote healthy living practices that are evidence-based and effective in lowering the risk of falls (physical activity-focus on strength and balance, medication management, annual vision assessment).	<ul style="list-style-type: none"> • Develop guidelines/criteria for best practice programs promoting healthy living and lowering risk for falls targeting older adults • Identify existing best practice programs in each county • Market existing fall prevention programs • Promote use of medication forms such as the one developed by APIPS www.themedform.com 	Home Safety Council State Agencies Local Health Departments Make Your Move Coalition Osteoporosis Coalition Arthritis Foundation Diabetes Association ADHS Chronic Disease Programs Virginia G. Piper Trust
3) Promote annual standardized Fall risk assessment for all adults 65 and older in primary care settings.	<ul style="list-style-type: none"> • Identify funding for health professional education and outreach. • Educate health care providers on incorporating simple fall prevention and intervention 	Health Services Advisory Group Osteoporosis Coalition

INJURY NAME: UNINTENTIONAL FALLS		
OBJECTIVE #1: REDUCE DEATHS AND INJURIES FROM UNINTENTIONAL FALLS AMONG OLDER ADULTS.		
STRATEGIC INTERVENTION	ACTION STEPS	KEY PARTNERS
	<p>strategies into practice.</p> <ul style="list-style-type: none"> • Develop training for State Aging Network and health care providers on assessment and intervention program referral. • Develop a toolkit with risk assessment tools, consumer fall prevention information and community-based resources. 	
4) Promote annual environmental assessments for home safety among community dwelling older adults.	<ul style="list-style-type: none"> • Identify home safety assessment tools • Educate service providers on use of home assessment • Identify resources for home modification. 	Area Agency on Aging, Governor's Advisory Council on Aging, Arizona Health Care Cost Containment System—Arizona Long Term Care System, Arizona Department of Economic Security-Div Adult and Aging Services, Foundation for Senior Living
5) Improve coordination and dissemination of information on prevention strategies and resources for older adults, caregivers and health care professionals.	<ul style="list-style-type: none"> • Engage public and private organizations to recognize their role in reducing injuries from falls • Identify opportunity for interagency collaboration. • Develop information dissemination plan. 	Local Health Departments, Area Agency on Aging, Arizona Health Care Cost Containment System—Arizona Long Term Care System, Department of Economic Security-Div Adult and Aging Srv, Governor's Advisory Council on Aging, Aging 2020 plan, Gov Council on the Health Status of Women
INJURY NAME: UNINTENTIONAL FALLS		
OBJECTIVE #2: REDUCE CHILDHOOD DEATHS AND INJURIES FROM UNINTENTIONAL FALLS.		
STRATEGIC INTERVENTION	ACTION STEPS	KEY PARTNERS
1) Reduce death and injury resulting from falls occurring at home	<p>Provide home safety checks. Provide parent/caregiver education about:</p> <ul style="list-style-type: none"> • Environmental modification <ul style="list-style-type: none"> ○ (Stair gates, window latches, 	ADHS Safe Kids and Partners Regional EMS Councils Community Based Organizations

INJURY NAME: UNINTENTIONAL FALLS		
OBJECTIVE #1: REDUCE DEATHS AND INJURIES FROM UNINTENTIONAL FALLS AMONG OLDER ADULTS.		
STRATEGIC INTERVENTION	ACTION STEPS	KEY PARTNERS
	<p>lighting, railings, etc.)</p> <ul style="list-style-type: none"> • Product modification 	
2) Reduce death and injury resulting from falls occurring at school	<ul style="list-style-type: none"> • Provide education and promote playground safety including: • Regular equipment maintenance • Increased play ground supervision • The use of age appropriate equipment • The use of impact absorbing surfaces • Promote sports safety and educate about: • Appropriate equipment • Age appropriate activities • Overexertion 	<p>Arizona Department of Education, Governor's School Readiness Board, Indian Health Services Community Based Organizations</p> <p>State Athletic Trainers' Association</p>
INJURY NAME: UNINTENTIONAL FALLS		
OBJECTIVE #3: REDUCE WORKPLACE INJURIES FROM UNINTENTIONAL FALLS.		
STRATEGIC INTERVENTION	ACTION STEPS	KEY PARTNERS
1) Collaborate with the Arizona Division Occupational Safety and Health (ADOSH)	<ul style="list-style-type: none"> • Invite ADOSH to participate in the Injury Prevention Advisory Council 	<p>Industrial Commission of Arizona AZ Chapter of National Safety Council</p>

Note: Future Key partners to be engaged with Fall and Injury Prevention targeting older adults: ABIL, ArMA, HMO's, Insurance Companies, Community Agencies, CHC's, COG's, AzGS, AzPHA, AZHHA, AzHA, Public Utilities, Pharmaceutical Companies, Foundation for Senior Living, AARP, Center DOAR

UNINTENTIONAL DROWNING

BACKGROUND

Drowning ranks as the 5th leading cause of unintentional death of Arizona residents of all ages and as the leading cause of unintentional death among Arizona children ages 1-4.

Drowning can occur in a range of circumstances that vary by age. Since drowning can occur in as little as one inch of water, children under age one most often drown in bathtubs, buckets, or toilets.¹ Most drowning among children ages 1-4 occur in residential swimming pools.² Children over the age of 5 as well as adults most often drown in natural water such as lakes and rivers.³ Additionally, alcohol use is involved in about 25-50 percent of adolescent and adults deaths associated with water recreation.⁴

According to the Child Fatality Review Program, lack of supervision, lack of pool barriers, and allowing a child to be alone in or near water were the top three most frequently identified factors associated with preventable deaths in children ages 1-4. In the Phoenix area, intervention efforts since 1990 have focused on preventing young children from drowning in swimming pools.

Injuries from near drowning take an enormous financial toll on affected families and the public (from emergency room visits to long-term care costs). The cost of a single near drowning that results in brain damage can be more than \$4.5 million.⁵ Nationally, the total annual cost of drowning among children ages 14 and under is approximately \$6.8 billion, with children ages 4 and under accounting for half of these costs.²

There were 97 unintentional drowning deaths in Arizona in 2004. In addition, there were 89 inpatient hospitalizations for drowning, and 139 emergency room visits. It is important to note that the Arizona Health Status and Vital Statistics includes water transportation and undetermined intent in their tabulation of accidental drowning deaths. For the purposes of this report, only unintentional drowning deaths are reported. There were three water transportation-related

¹ Brenner RA, Trumble AC, Smith GS, Kessler EP, Overpeck MD. Where children drown, United States, 1995. *Pediatrics* 2001;108(1):85-9.

² Safe Kids Worldwide, Facts about Childhood drowning, http://www.usa.safekids.org/content_documents/Drowning_facts.pdf, accessed on 01/05/06.

³ Center for Disease Control and Prevention, Morbidity and Mortality Weekly Report, Nonfatal and Fatal Drownings in Recreational Water Settings – United States, 2001-2002; June 4, 2004/53(21);447-452.

⁴ Howland J, Mangione T, Hingson R, Smith G, Bell N. Alcohol as a risk factor for drowning and other aquatic injuries. In: Watson RR, editor. *Alcohol and accidents. Drug and Alcohol Abuse Reviews. Vol 7.* New Jersey, Humana Press, Inc.; 1995.

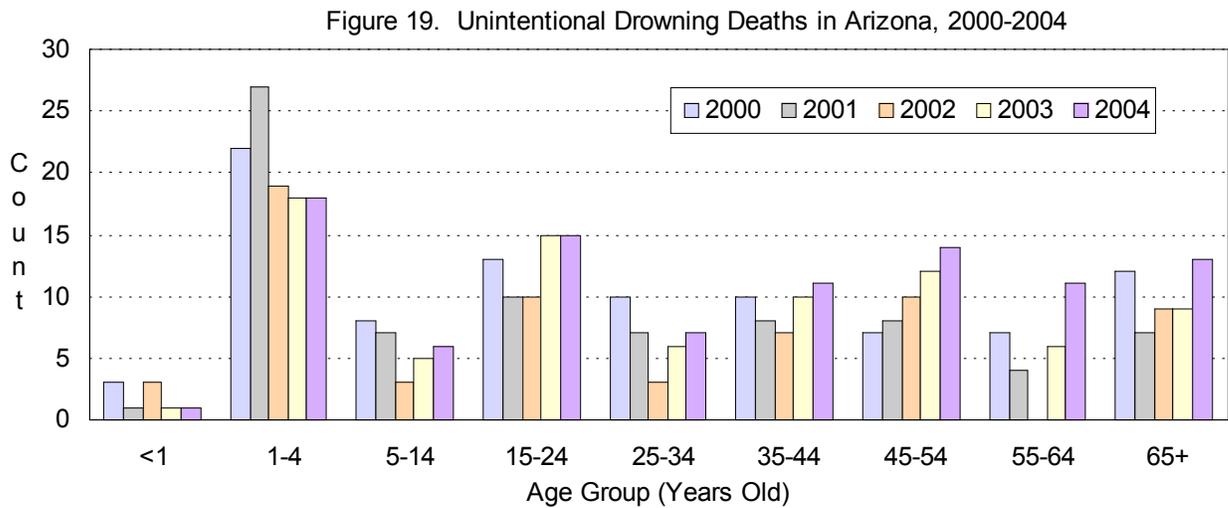
⁵ National SAFE KIDS campaign (NSKC). Drowning Fact Sheet. Washington (DC): NSKC, 2004. <http://www.preventinjury.org/PDFs/DROWNING.pdf>, accessed on 01/05/06.

drowning deaths and five undetermined intent drowning deaths in 2004 which are not included in the death statistics presented in this chapter. Currently, the ICD-10 codes for water transportation-related drowning deaths are included with the “other transport” codes which are addressed in the unintentional transport injuries chapter of this Plan.

DEATH TRENDS FOR UNINTENTIONAL DROWNING

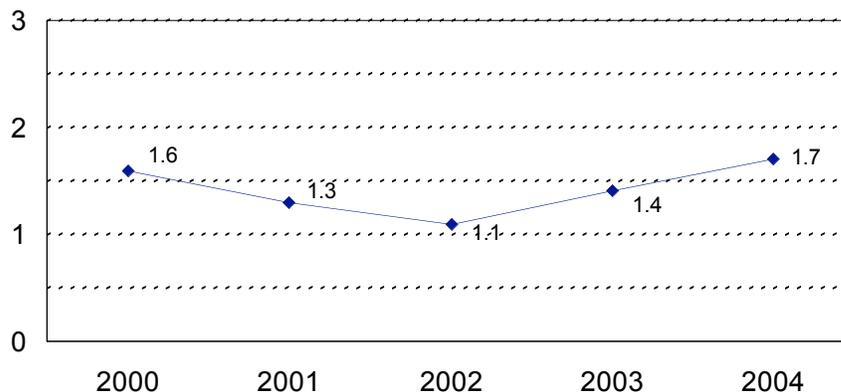
Among infants, toddlers, and preschool-age children, drowning claims the lives of approximately 25 Arizona children each year. Of young children involved in an incident requiring emergency medical care, approximately 9 percent survive; albeit with neurological impairment; 25 percent die; and 66 percent survive with no apparent ill effects (probably because cardiopulmonary resuscitation (CPR) was given promptly).

In 2000 to 2004, the number of unintentional drowning deaths was highest among the 1-4 year olds. Figure 19 shows the number of unintentional drowning deaths by age group in Arizona from 2000 to 2004.



As seen in Figure 20, the age-adjusted mortality rate due to unintentional drowning in Arizona has varied slightly from a low of 1.1 per 100,000 in 2002 to 1.7 in 2004.

Figure 20. Age-Adjusted Mortality Rates per 100,000 for Unintentional Drowning, Arizona, 2000-2004



While the 2004 rate is not yet available for a national comparison, the 2003 Arizona age-adjusted rate of 1.4 is slightly higher than the 2003 national age-adjusted death rate of 1.1 per 100,000 for unintentional drowning-related deaths.⁶

In contrast, the unintentional drowning rate for Arizona children age 0-4 (5.5 deaths per 100,000 children, 2000-2004) is twice the national rate (2.7 per 100,000 children, 2000-2003),⁶ the third highest state rate in the United States.⁶

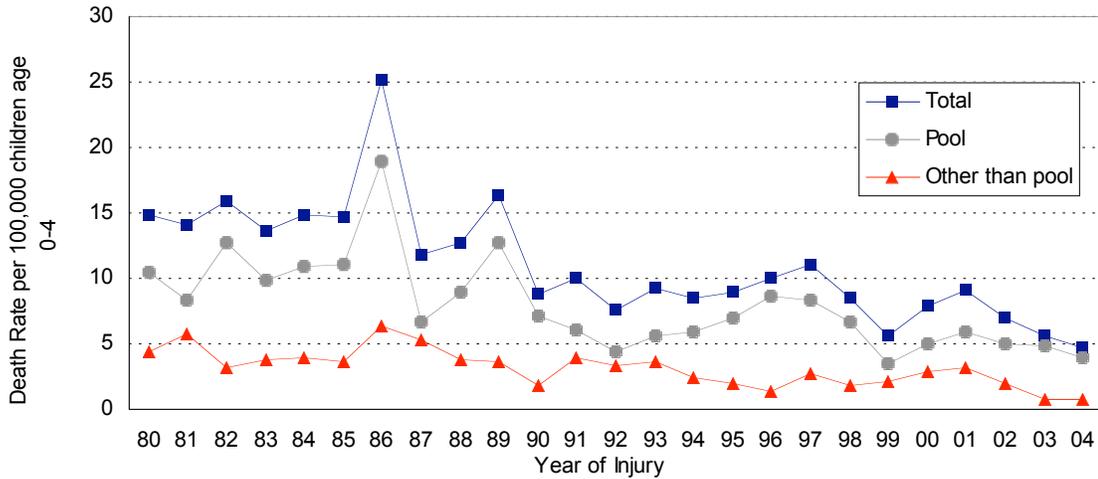
MARICOPA COUNTY

The Arizona Department of Health Services has conducted a detailed analysis of the 480 unintentional child drownings occurring in Maricopa County since 1980.⁷ Special attention was paid to accurately code the body of water in which the drowning occurred. Figure 21 reveals a drowning rate in 2004 of 4.7 deaths per 100,000 resident children. This was the lowest rate on record, but still exceeds the national rate.

⁶ Centers for Disease Control and Prevention, National Centers for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2005) {cited 2006 Feb 2}. Available from: www.cdc.gov/ncipc/wisqars.

⁷ Customarily, mortality data only counts the deaths of the resident population. However, the data presented in the following two figures did not consider where the decedent resided. That is to say, the Arizona Department of Health Services analysis reviewed the death certificates of children who died in Maricopa County and whose incident also occurred in Maricopa County. The first graph presents the rate of incidents, regardless of residency, according to the year of the incident divided by the estimated number of children age 0-4 each year residing in the county.

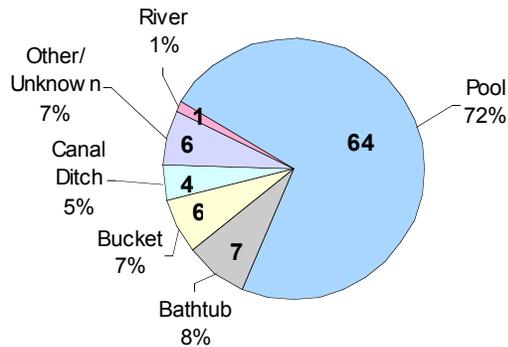
Figure 21. Child Drowning Rates in Maricopa County, Arizona, 1980-2004



WATER TYPES

Swimming pools continue to pose the greatest drowning threat to Maricopa County children. In the 5-year period from 2000-2004, pool incidents accounted for 72 percent (n=64) of the 88 drownings (Figure 22). In addition to pools, bathtubs and buckets also contributed to the number of childhood deaths from drowning.

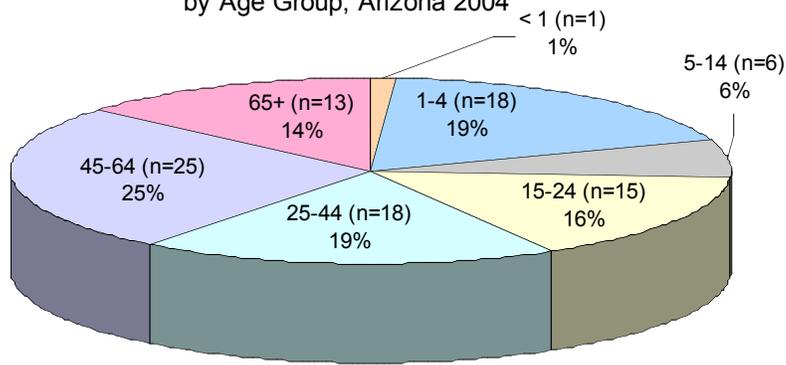
Figure 22. Child Drownings in Maricopa County, Arizona, 2000-2004



DROWNING DEATHS

Unintentional drowning deaths in Arizona are infrequent; therefore, mortality rates by age, gender, and race/ethnicity cannot be calculated. Among the 97 unintentional drowning deaths, 72.2 percent were males (n=70) and 27.8 percent were females (n=27). The 45-64 year age group accounted for 25 percent (n=25) of unintentional drowning-related fatalities. The 1-4 and 25-44 age groups each accounted for 19 percent (n=18) of unintentional drowning deaths. Figure 23 shows the age distribution of Arizona residents who died from drowning during 2004.

Figure 23. Unintentional Drowning-Related Deaths by Age Group, Arizona 2004

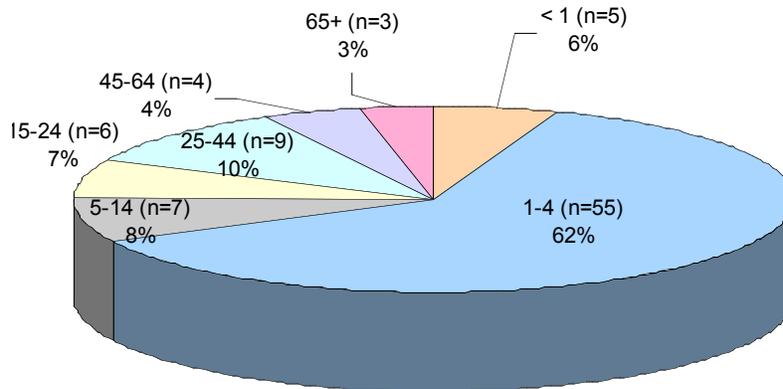


Does not include one male with unknown age

INPATIENT HOSPITALIZATIONS FOR NEAR DROWNING

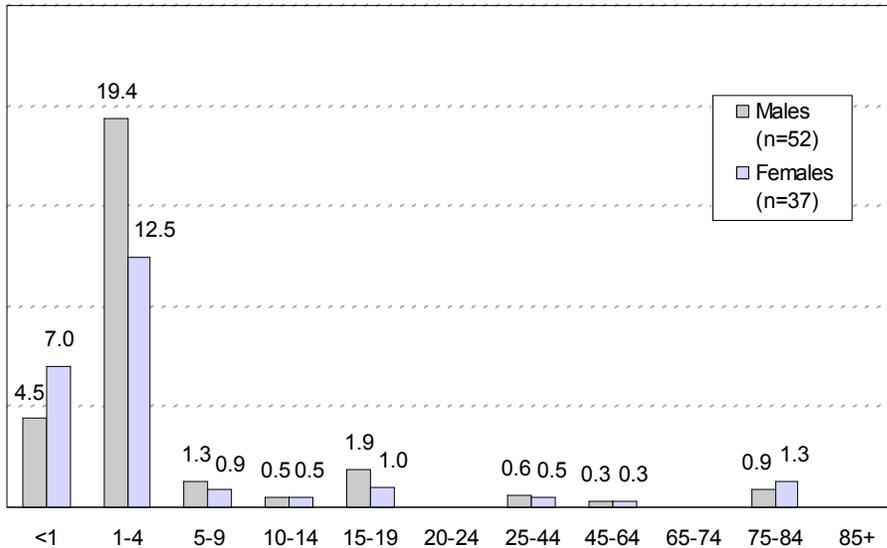
There were 89 inpatient hospitalizations for drowning or near drowning among Arizona residents in 2004; 58.4 were males (n=52) and 41.6 percent were females (n=37). Of those hospitalized for near drowning, 13 died. The 1-4 age group accounted for 62 percent (n=55) of unintentional drowning-related hospitalizations. Figure 24 shows the age distribution of Arizona residents who were hospitalized for near drowning during 2004.

Figure 24. Unintentional Drowning-Related Inpatient Hospitalizations by Age Group, Arizona 2004



Children ages 1-4 had the highest hospitalization rates for unintentional drowning-related injuries: males (19.4 per 100,000) and females (12.5 per 100,000). Figure 25 shows the 2004 hospitalization rates for drowning-related injuries by age group and gender for Arizona residents.

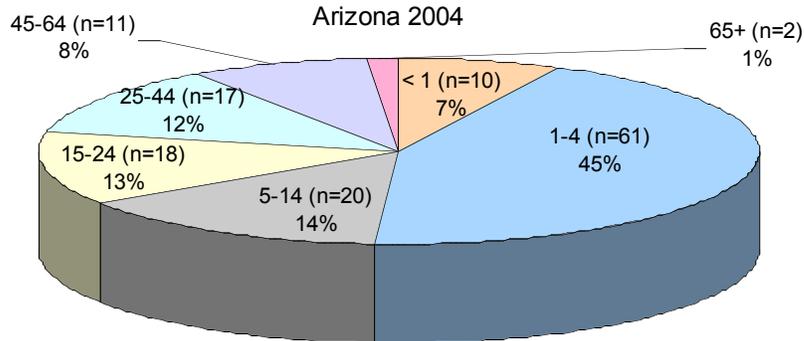
Figure 25. Unintentional Drowning-Related Inpatient Hospitalization Rates per 100,000 Population, Arizona 2004



EMERGENCY DEPARTMENT VISITS FOR NEAR DROWNING

There were 139 emergency department visits for near drowning among Arizona residents in 2004: 64.7 percent were males (n=90) and 35.3 were females (n=49). Of those who were seen in the emergency department for drowning-related injuries, 15 died. Children ages 1-4 accounted for 45 percent (n=61) of emergency department visits for unintentional drowning-related injuries. Figure 26 shows the age distribution of Arizona residents who were seen in the emergency department for near drowning during 2004.

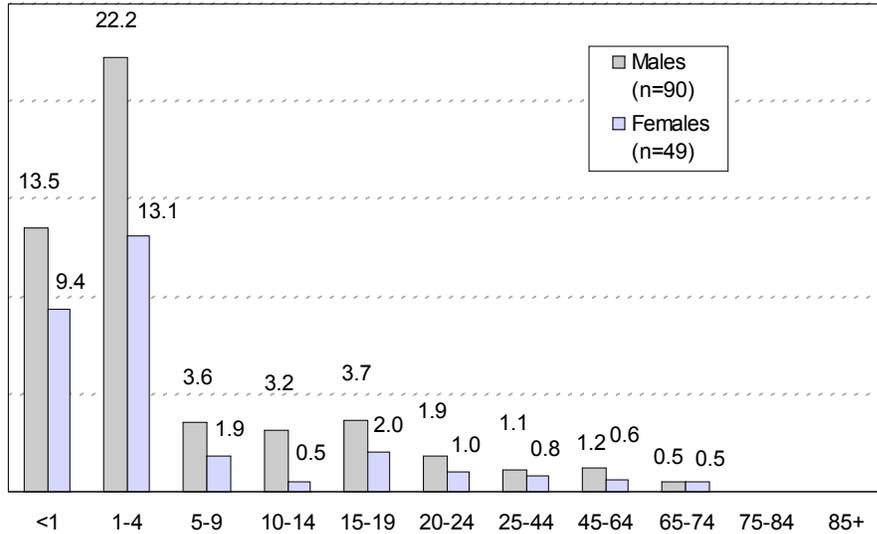
Figure 26. Unintentional Drowning-Related Emergency Department Visits by Age Group, Arizona 2004



As in hospitalizations, children ages 1-4 had the highest rates of unintentional drowning-related emergency department visits; males (22.2 per 100,000) and females (13.1 per 100,000). Figure 27 shows 2004 emergency department visit

rates for drowning-related injuries by age group and gender for Arizona residents.

Figure 27. Unintentional Drowning-Related Emergency Department Visit Rates per 100,000 Population, Arizona 2004



EXISTING SURVEILLANCE SYSTEMS

The systems to monitor drowning deaths and non-fatal near drowning in Arizona include death certificates, hospital discharge data, emergency department data, and reports issued by the Child Fatality Review Team. In addition, fire departments submit reports of drowning and near drowning that occur in Maricopa County. Fire departments submit these reports voluntarily to the Arizona Department of Health Services, which works in conjunction with the Drowning Prevention Coalition of Central Arizona to produce an annual report. The Tucson Fire Departments in Pima County also compile case reports of water-related incidents, but no formal reports are produced.

SUMMARY/HIGHLIGHTS OF DATA

- Among persons of all ages, an average of 84 unintentional drowning deaths per year have occurred in Arizona since 2000.
- Among 0-4 year olds, an average of 23 unintentional drowning deaths per year occurred in Arizona since 2000.
- In Arizona during 2004, children ages 1-4 had the highest rates of hospitalizations and emergency department visits due to unintentional drowning-related injuries. Males had higher rates than females.

- Among children age 0-4, the Arizona death rate from drowning now exceeds the death rate from motor vehicle injury, as motor vehicle deaths have dropped rapidly among children age 0-4.

LIMITATIONS OF DATA

The water type of many drowning deaths is miscoded in the electronic database as “unspecified” because of a shortcoming of the software that assigns ICD-10 codes. Nevertheless, the data shown for Maricopa County has been manually corrected.

CHALLENGES SURROUNDING DROWNING

- Circumstances of drowning among older children or adults is not well documented;
- Circumstances of drowning in counties other than Maricopa need to be characterized;
- Role of swim lessons in preventing child drowning is unknown;
- The number of pools in Maricopa county remains unknown;
- It is difficult to document the effectiveness of drowning prevention messages or barrier ordinances in various cities;
- The magnitude of boating-related drowning on Colorado River and Phoenix area lakes has not been defined.

CURRENT INTERVENTIONS

A variety of activities address the topics of education, enforcement, and product safety. The Drowning Prevention Coalition of Central Arizona (DPCCA) consists of fire departments in Phoenix area, staff from several hospitals in the Phoenix area, parents, American Red Cross, Maricopa County Department of Public Health, industry groups, and others. The DPCCA educates the public, urges legislative action, and promotes the safe use of water. The Arizona Department of Health Services-sponsored Child Fatality Review Teams in Phoenix and Tucson metro areas also address drowning. Various television and radio stations promote safety around water, as do fire departments statewide. In 1990, the legislature passed a pool barrier law, but the laws of local jurisdictions may conflict with the state law. Other entities conduct activities apart from the state plan; these include county and local law enforcement agencies, US Coast Guard, Arizona Game and Fish Department, and US Forest Service in terms of the safe use of lakes and rivers.

ACCOMPLISHMENTS

- The fire departments, DPCCA, and others conducted many individual campaigns to educate persons about the risk of child drowning. These include a school curriculum, public water safety events, distribution of flyers, and public service announcements in print and radio.
- The county attorney prosecuted two high profile cases of parental neglect (bathtub incidents).
- In Maricopa County, media coverage and the community's interest in pool safety remained high in 2004.
- In 2004, the drowning rate per 100,000 children (in all bodies of water combined) in Maricopa County decreased to the lowest level on record.
- The City of Phoenix, in conjunction with the state attorney general's office and others, is drafting amendments to the state pool barriers law.

STRATEGIC PLAN FOR 2006-2010

INJURY NAME: DROWNING		
OBJECTIVE #1: REDUCE POOL DROWNINGS AND NEAR-DROWNINGS		
STRATEGIC INTERVENTION	ACTION STEPS	KEY PARTNERS
1) Increase public awareness about pool safety in Arizona	<ul style="list-style-type: none"> Support <u>April Pools</u> events, Water Watchers Days, and other community water safety events. Explore corporate or outside funding. Market the “Yellow Tape Barrier” video to local TV stations and NDPA Expand website preventdrownings.com and explore other links Expand the use of school-based educational programs to address water safety (“Water Safety is for YOU”) Target education campaigns to high-risk areas; involve community in the design of the campaigns 	Drowning Prevention Coalition of Central Arizona
2) Standardize and enforce pool barrier codes in all municipalities	<ul style="list-style-type: none"> Participate in drafting of proposed legislation Ask each city to identify a department responsible for maintaining their city codes 	Drowning Prevention Coalition of Central Arizona Tucson Drowning Prevention Coalition National Drowning Prevention Alliance Spa and Pool Association Safe Kids and partners
3) Increase public awareness and skills related to CPR for all ages	<ul style="list-style-type: none"> Identify short CPR training messages for mass distribution Encourage hospitals and fire departments to offer community based CPR classes Explore corporate or outside funding for mass sponsor of CPR “hands-on” training Pursue school-based CPR training Encourage community participation in formal CPR training courses 	Fire departments Hospitals American Red Cross

***Baseline measure:** 6.64 deaths per 100,000 (AZ pool death rate, annualized 1995-1999, age 0-4; Source: AZ Vital Statistics)

Target measure: 2.95 deaths per 100,000 children (US rate for drowning in any body of water)

***Current measure:** 4.66 deaths per 100,000 children (AZ pool death rate in 2002)

INJURY NAME: DROWNING		
OBJECTIVE #2: EXPAND THE DROWNING SURVEILLANCE SYSTEM		
STRATEGIC INTERVENTION	ACTION STEPS	KEY PARTNERS
1) Expand the surveillance system to include pool incidents in all counties*	<ul style="list-style-type: none"> • Build a web-based data entry form • Seek statutory authority for drowning surveillance 	ADHS Individual fire departments statewide Safe Kids and partners
2) Study the role of: a. Swim lessons in children under age 5 years of age b. Education campaigns c. Barriers and laws	<ul style="list-style-type: none"> • Design a survey of families who experience a water-related incident to ask about these items. • Propose these items be added to the NDPA research agenda 	ADHS CDC Fire departments
3) Expand the surveillance system to monitor and report incidents at rivers and lakes in Arizona	<ul style="list-style-type: none"> • Work with County Sheriff's office, coast guard, and other water enforcement agencies • Establish data sharing agreements with various agencies • Meet with USCG and AZ G&F • Determine jurisdiction on various segments • Utilize web-based reporting of water incidents 	ADHS Maricopa County Sheriff's Office Maricopa County Parks United States Coast Guard Police and sheriff's offices AZ Game & Fish US Nat'l Park Svc Local fire departments

2002 Baseline measure: Only Maricopa is included in the system.

Target measure: All counties will be included in the surveillance system.

*Comment: For a county to be considered as "included in the system," four elements must be present: a) there is a manager of the data; b) death trend data available; c) ascertainment of risk factors associated with deaths or incidents; and d) there is a published report.

Current measure: In 2005, only Maricopa is included in the system.

UNINTENTIONAL POISONING

BACKGROUND

Poisoning is a serious health problem in Arizona, affecting all ages and genders, across ethnic or racial groups. Evidence of the magnitude of the problem is that with 533 deaths due to poisoning in 2004, poisoning ranks as the second leading cause of unintentional injury death for all ages in Arizona. However, illness ranging from minor to severe is the most common outcome of poisoning.

Poisoning can be either intentional or unintentional. This chapter focuses on unintentional poisoning. Injuries from intentional poisoning like suicide and homicide are further addressed in other chapters of this Injury Plan.

Sources of unintentional poisoning vary by age, gender, occupation, and ethnic group. Sources include over the counter medications; prescription medications and street drugs (methamphetamine, psychotropics); toxic substances encountered in the home and at work (household cleaning substances, industrial cleaners, lead, pesticides, cosmetics). Some poisonings, such as those due to illegal drug use, are under-reported. Particular attention needs to be given to the indirect effects of poisoning, such as when increased lead blood levels interfere with learning or require extensive medical treatment.

Causes and intentionality associated with poison deaths vary by age, with unintentional poisoning from cosmetics and analgesics more likely among the very young. Deaths from poisoning in adults ages 25-64 reflect the lethal effects of intentional drug use or overdose, inadvertent overdose or reaction to street drugs. Lethal poisonings occurring in adults over age 60 are mostly from prescription medications.

Although most victims of poisoning do not die, the cost to the public (from visits to physicians, to the emergency departments, and for inpatient hospitalizations) makes poisoning of all kinds an important injury prevention issue. The total annual cost of poisoning-related death and injury among children ages 14 and under is more than \$21.8 billion.¹ The average cost of hospital treatment for a poisoning exposure is \$8,700.¹

Arizona benefits from having two poison control centers: Banner Poison Center, which serves primarily Maricopa County (60 percent of Arizona's population) and the Arizona Poison and Drug Information Center, located on the University of Arizona campus in Tucson, primarily serving the rest of Arizona. Both centers accept calls from outside their areas, in the interest of serving the public efficiently. Poison centers provide 24-hour telephone access for emergency

¹ National SAFE KIDS Campaign (NSKC). Poisoning Fact Sheet. Washington (DC): NSKC, 2004.

information and treatment recommendations, consultation, and follow up. The phones are handled by nurses and pharmacists specifically trained for this function. Calls often satisfy the patient's concern and allow treatment at home, avoiding a costly visit to the emergency department.

Calls to Banner Poison Center exceeded 110,000 in 2004 – an increase of 14 percent over 2003. The Arizona Poison Center fielded 74,142 calls in 2004, an increase of over 12 percent from 65,000 in 2000.

Most calls originate from the home environment and do not require referral to a health care facility. More than 90 percent of poison exposures occur in the home where children, especially those under the age of six years, are at greatest risk. Children are also most sensitive to the negative health effects of poisoning. Older adults are more vulnerable to drug interactions and overdoses because of physiological effects of aging, memory and vision problems, and multiple prescription medications.

Slightly less than half (43 percent) of calls to Banner Poison Center are for information and identification of drugs. In 2004, more than 50,000 calls concerned human factors, including over 42,000 unintentional exposures and nearly 6,000 intentional poisonings.

Over half (60 percent) of the calls to the Arizona Poison and Drug Information Center are for information and identification of drugs. In 2004, more than 26,000 calls concerned human factors, including over 24,000 unintentional exposures and over 3,000 intentional poisonings.

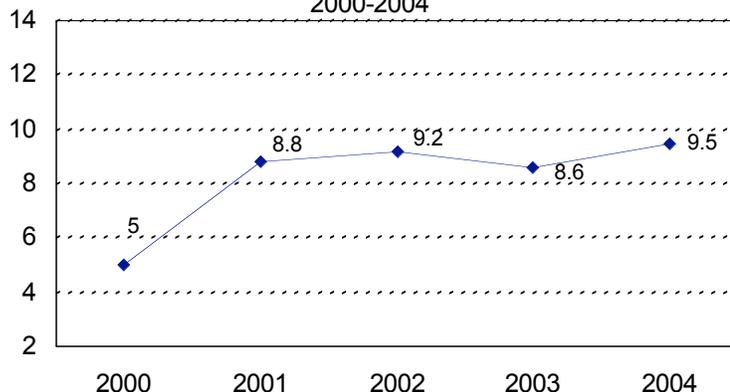
Input from stakeholders has identified several areas for prevention that are particularly relevant for Arizona, such as preventing methamphetamine-related deaths and childhood poisoning. Cultural issues include language barriers, which contribute to both misuse of medications and non-use of poison center services; and over-representation of Hispanics in childhood lead poisoning, possibly related to housing or folk remedies. Focused data analysis and expanded stakeholder input are needed to prioritize poisoning prevention activities in Arizona.

There were 533 deaths from unintentional poisoning in Arizona during 2004. In addition, there were 1,669 inpatient hospitalizations and 4,237 emergency room visits for unintentional poisoning.

DEATH TRENDS FOR UNINTENTIONAL POISONING

As seen in Figure 28 there appears to be a rise in mortality rates for unintentional poisoning in Arizona. The age-adjusted mortality rate in 2000 was 5.0 per 100,000 compared to 9.5 in 2004.

Figure 28. Age-Adjusted Mortality Rates per 100,000 for Unintentional Poisoning, Arizona, 2000-2004



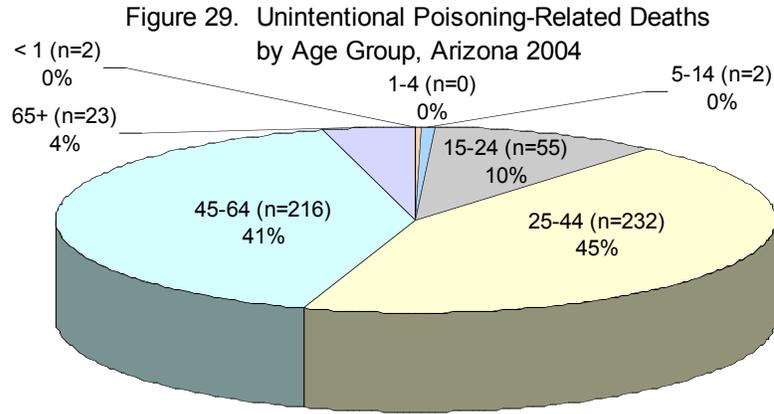
Source: Arizona Health Status and Vital Statistics 2000-2004

While the 2004 rate is not yet available for a national comparison, the Arizona age-adjusted rate for 2003 of 8.6 is considerably higher than the 2003 national age-adjusted death rate of 6.7 per 100,000 for unintentional poisonings.²

DEATHS FROM POISONING

Among the 533 unintentional poisoning deaths, 71.3 percent were males (n=380) and 28.7 percent were females (n=153). Adults 25-64 accounted for 86 percent (n= 448) of unintentional poisoning-related deaths. Figure 29 shows the age distribution of Arizona residents who died from poisoning during 2004.

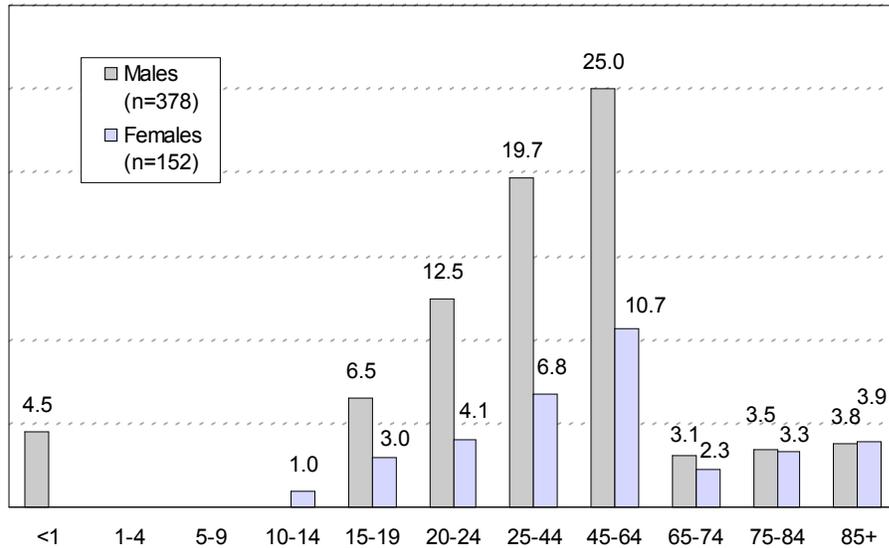
² Centers for Disease Control and Prevention, National Centers for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2005) {cited 2006 Feb 2}. Available from: www.cdc.gov/ncipc/wisqars.



Does not include 3 cases with unknown age

Males in the age group 45-64 had the highest death rates for unintentional poisoning-related injuries (25.0 per 100,000). Figure 30 shows the 2004 death rates for poisoning by age group and gender for Arizona residents.

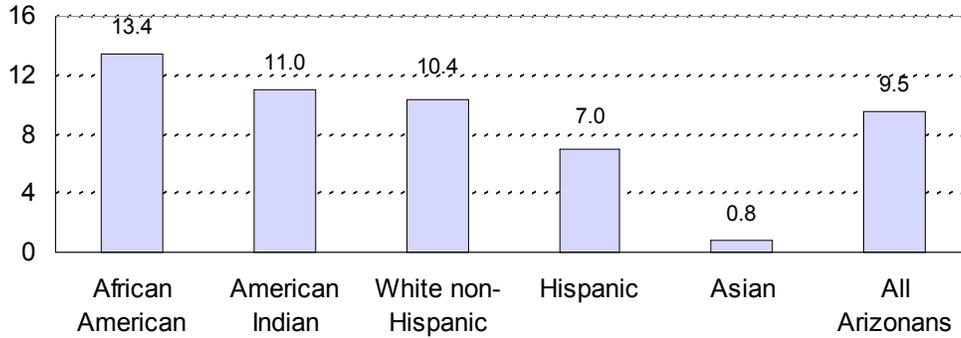
Figure 30. Unintentional Poisoning-Related Death Rates per 100,000 Population, Arizona 2004



Does not include 3 cases with unknown age

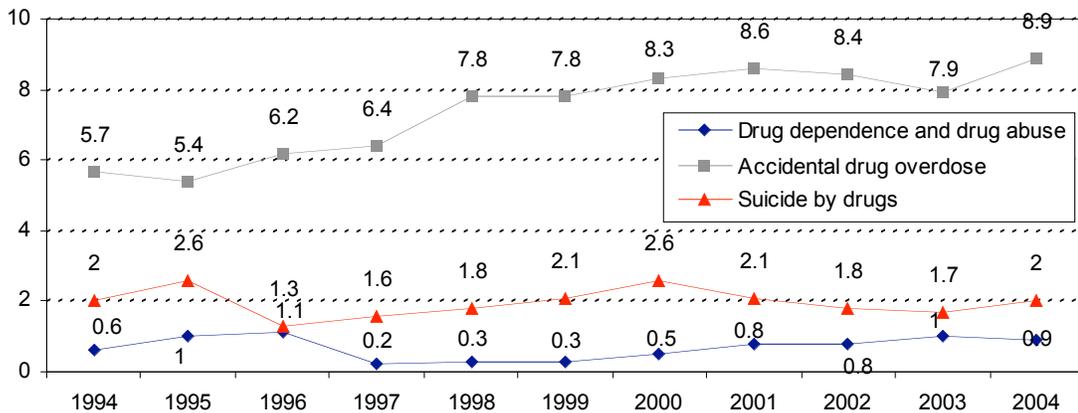
Unintentional poisoning-related death rates also vary by race/ethnicity in Arizona. Death rates were highest for African Americans (13.4 per 100,000) and lowest for Asians (0.8 per 100,000). Figure 31 below shows the 2004 age-adjusted rates for poisoning-related deaths by race/ethnicity in Arizona.

Figure 31. Age-Adjusted Unintentional Poisoning-Related Death Rates per 100,000 by Race/Ethnicity, Arizona 2004



Drug-related death rates can be categorized as related to drug dependence and abuse, accidental drug overdose, and suicide. Figure 32 below shows that, over the last decade in Arizona, drug dependence and abuse death rates and drug-related suicide rates have remained fairly stable while the death rate from accidental drug overdose has been rising with a low of 5.4 deaths per 100,000 in 1995 to 8.9 deaths per 100,000 in 2004.

Figure 32. Drug-Related Death Rates per 100,000 by Mortality Category and Year, Arizona, 1994-2004



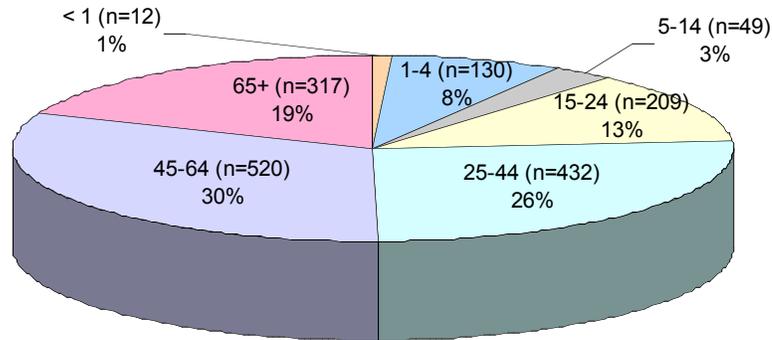
Source: Injury Mortality Among Arizona Residents, Drug-Related Deaths, 1994-2004

INPATIENT HOSPITALIZATIONS FOR POISONING

There were 1,669 inpatient hospitalizations for poisoning among Arizona residents in 2004: 48.2 percent were males (n=805) and 51.8 percent were females (n=864). Of those hospitalized for unintentional poisoning, 11 died. Adults 25-64 (n=952) accounted for more than half of all unintentional poisoning-

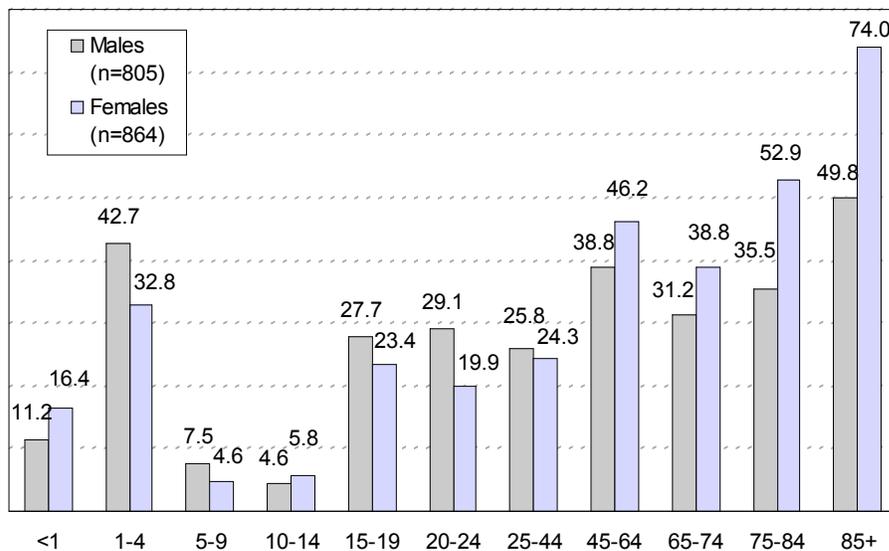
related hospitalizations (56 percent). Figure 33 shows the age distribution of Arizona residents who were hospitalized for poisoning during 2004.

Figure 33. Unintentional Poisoning-Related Inpatient Hospitalizations by Age Group, Arizona 2004



Females 85 and older had the highest hospitalization rates for unintentional poisoning-related injuries (74.0 per 100,000). Figure 34 shows the 2004 hospitalization rates for poisoning-related injuries by age group and gender for Arizona residents.

Figure 34. Unintentional Poisoning-Related Inpatient Hospitalization Rates per 100,000 Population, Arizona 2004

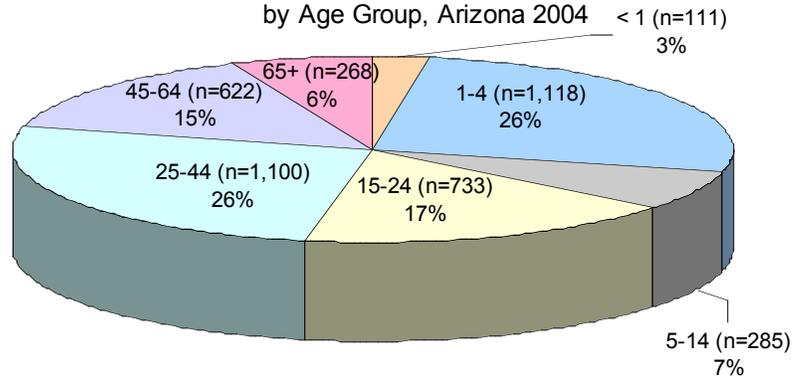


EMERGENCY DEPARTMENT VISITS FOR POISONING

There were 4,237 emergency department visits for poisoning among Arizona residents in 2004: 49.3 percent were males (n=2,087) and 50.7 percent were females (n=2,150). Of those who were seen in the emergency department for

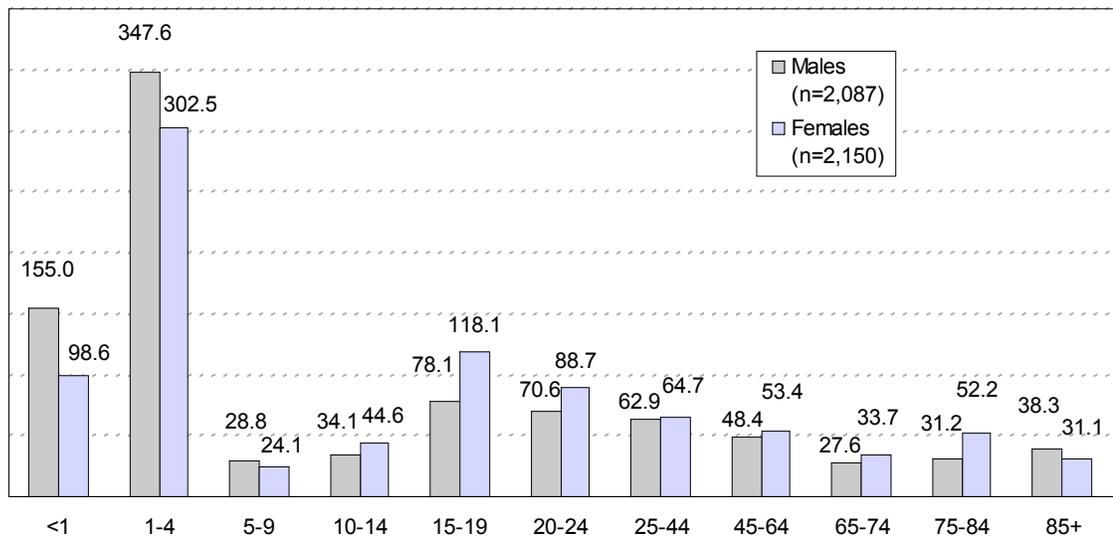
poisoning-related injuries, 3 died. The 1-4 (n=1,118) and 25-44 (n=1,100) age groups each accounted for 26 percent of unintentional poisoning-related emergency department visits. Figure 35 shows the age distribution of Arizona residents who were seen in the emergency department for poisoning during 2004.

Figure 35. Unintentional Poisoning-Related Emergency Department Visits by Age Group, Arizona 2004



Children ages 1-4 had the highest rates of unintentional poisoning-related emergency department visits; 347.6 per 100,000 for males and 302.5 per 100,000 for females. Figure 36 shows the 2004 emergency department visit rates for poisoning-related injuries by age group and gender for Arizona residents.

Figure 36. Unintentional Poisoning-Related Emergency Department Visit Rates per 100,000 Population, Arizona 2004



EXISTING SURVEILLANCE SYSTEMS

Poisoning injuries are monitored via death certificates, hospital discharge data, and emergency department data. Additionally, lead poisoning and pesticide poisoning surveillance data and reports from the Poison Control Centers as compiled through the American Association of Poison Control Centers (AAPCC) collects data by state and nation.

SUMMARY/HIGHLIGHTS OF DATA

In Arizona during 2004:

- Poisoning was the second leading cause of unintentional injury death for residents ages 15 to 64. Poisoning was the fourth leading cause of unintentional injury-related death for adults age 65 to 74, following motor vehicle traffic, falls, and suffocation.
- Unlike deaths and hospitalizations, children ages 1-4 had the highest rates of unintentional poisoning-related emergency department visits.
- Among racial/ethnic groups, African Americans had the highest unintentional poisoning-related death rate (13.4 per 100,000).
- All together, the Arizona Poison and Drug Information Center (Tucson) and Banner Health Regional Poison Center (Phoenix) received over 184,000 calls in 2004.
- Unintentional poisonings accounted for the largest percentage of calls, with ingestion of analgesic drugs and topicals, such as diaper rash creams, and cosmetics foremost for infants and toddlers.
- Laboratories and health care providers reported 220 childhood cases and 39 adult cases of lead poisoning in Arizona during 2004, both down since 2000.
- Statewide, 12 cases of pesticide poisoning were reported in 2004, down a third from 2000.

LIMITATIONS OF DATA

Direct comparison and aggregation of data from the two poison centers cannot be done directly because of incompatible data collection systems. Each center provides its own analysis to the public. Centers' data are reported to the American Association of Poison Control Centers, which combines and publishes data for all states, but lags at least one year.

CURRENT INTERVENTIONS

The ADHS Lead Poisoning Prevention Program conducts surveillance activities, provides case management including environmental investigations, and performs education and outreach activities.

The ADHS Pesticide Poisoning Prevention Program maintains the pesticide poisoning surveillance registry, which tracks exposures and illnesses throughout the state. Program staff will provide consultation and informational literature on pesticides and their potential effect on human health.

The two Arizona Poison Centers provide advice about poison and medication-related emergency treatment, as well as referral assistance and information about poisons and toxins, poison prevention, and the safe and proper use of medications.³

The Arizona Health Care Cost Containment System (AHCCCS) works in collaboration with the Arizona Department of Health Services lead poisoning prevention program to test children and assist with case management. The City of Phoenix Healthy Homes Program and the Housing Authority of Cochise County provide lead remediation and abatement services for children in their respective areas.

ACCOMPLISHMENTS

The Arizona Department of Health Services Lead Poisoning Prevention Program continues to collaborate with local organizations and agencies to promote prevention education and provide additional services to families of lead poisoned children. Promotoras from Child & Family Resources, INC. and Campesinos Sin Fronteras were provided lead training by program staff. The Promotoras provided valuable home education in Yuma County and in the city of South Tucson. Lead exposure prevention and education is essential to ensuring declining blood lead levels in Arizona.

³ <http://www.pharmacy.arizona.edu/outreach/poison/about.php>

STRATEGIC PLAN FOR 2006-2010

Injury Name: Poisoning		
Objective #1: (Healthy People 2010) Reduce Severe Lead Poisoning (Pb > 20 ug/dL) 75% by 2010. Reduce the Prevalence of Lead Poisoning (Pb > 10 ug/dL) in Arizona by 50% by 2010.		
Strategic intervention	Action steps	Key partners
1) Increase the number of AHCCCS eligible high-risk children screened for lead poisoning by 5% each year.	Educate health plans and providers about the need to screen at-risk children Notify providers and families when lead screen levels are high for follow-up	Arizona Health Care Cost Containment System (AHCCCS) and AHCCCS providers Well child clinics WIC Head Start ADHS
2) Implement a lead-based pottery and folk medicine education campaign in high risk zip codes	Secure funding, identify target populations, implement the education campaign, evaluate, and extend the education campaign statewide	Hispanic organizations Media Community-based organizations ADHS
3) Continue current registry program, investigate cases and make appropriate intervention referrals	Maintain funding, staff and activities. Reporting is required by statute, all laboratories are required to report any blood lead test performed on a citizen of Arizona	Arizona Health Care Cost Containment System State and Local housing departments ADHS

Baseline: 200 – 300 childhood lead poisoning cases reported each year, of which 20% are severe (prevalence rate data not available at this time).

Target: 50 – 75 childhood cases reported each year.

Evaluation method: Compare number of cases reported to the ADHS surveillance system with baseline, including rates of lead poisoning if available.

Injury Name: Poisoning		
Objective #2: Reduce methamphetamine poisoning		
Strategic intervention	Action steps	Key partners
Reduce availability of methamphetamine.	<p>Work with Governor's Office of Children, Youth and Families to promote effective reduction policies.</p> <p>Invite the College of Pharmacy to promote use of alternative decongestants rather than ephedrine like drugs</p> <p>Seek resources to educate the public about the dangers of methamphetamine.</p>	<p>Governor's Office of Children, Youth and Families Attorney's General Office ADHS City governments</p>
Injury Name: Poisoning		
Objective #3: Reduce other causes of poisoning		
Strategic intervention	Action steps	Key partners
Encourage medication reconciliation - a process of identifying the most accurate list of a person's medication to prevent adverse drug interactions.	Encourage the use of the Med Form: http://www.themedform.com/ to maintain accurate lists of medications.	Arizona Partnership for Implementing Patient Safety (APIPS)

UNINTENTIONAL FIRE/BURNS

BACKGROUND

Burns can result from flames or scalding liquids as well as electricity, ultraviolet radiation, or chemicals. Other injuries may result from smoke inhalation. In Arizona, about 94 percent of deaths from fires and burns are from fire or flame, nearly 77 percent of which occur in the home. National incidence data show 76 percent of burn deaths are due to residential fires. Additionally, about half of home fire deaths in the United States occur in homes without smoke alarms.¹

However, of far greater incidence are scald burns, which are seldom fatal but produce lasting effects and are often expensive to treat. All burn injuries exact a high cost among survivors, especially among children, requiring extensive, often life long treatment. Arizona has an extraordinarily high survival rate of burn victims (97.9 percent in 2004). In comparison, the national survival rate for burn injury is only 92-95 percent. Even so, issues of survival rather than mortality reflect the public health implications of thermal injury costs.

High risk populations in Arizona parallel national risk groups, in that children under 14, males, adults over 65, poorer residents, Hispanics, American Indians, rural residents, and those living in substandard housing are at greatest risk of mortality from fire and burn injury.² Such risk indicates both greater vulnerability to fires and lesser availability of appropriate treatment for large or complicated burn injuries.

Radiation burns from sun rays are almost never fatal but are a special concern, especially for children, because of their extremely long-term effects. Considering that a major portion of lifetime sun exposure is absorbed before the age of 18, it is important to be aware of the sequelae, which may not be evident until many years later. Skin cancers, changes in dermatological pigmentation, scar tissue, and impaired integrity take a toll economically, physically, and emotionally. Such subtle effects may be lost in the enormity of major burn catastrophes. Deaths from skin cancer potentially caused by sun are not included when counting injuries from fire and burns.

The Arizona Burn Center reports that the average cost of hospitalization of a pediatric burn for children through six years of age was \$47,177. This cost does not include outpatient services, i.e., skin grafts, therapies, and medications.

¹ Ahrens M. U.S. experience with smoke alarms and other fire alarms. Quincy (MA): National Fire Protection Association; 2001.

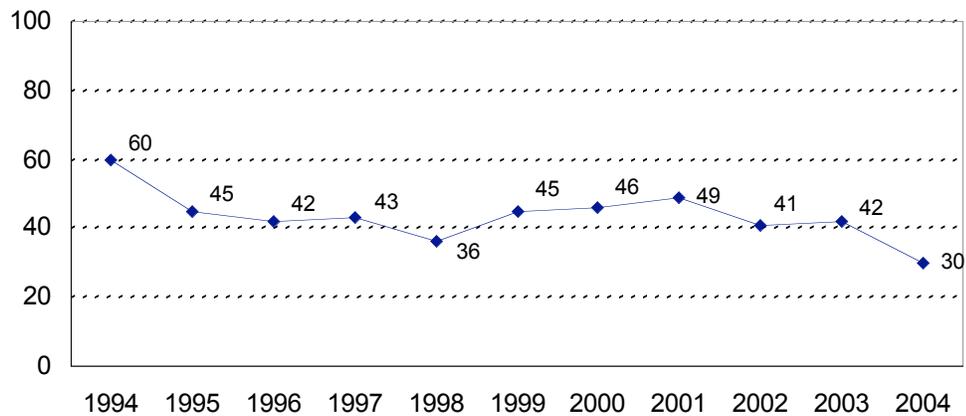
² Centers for Disease Control and Prevention. *Injury fact book 2001-2002*.

There were 32 deaths from fire and burns in Arizona during 2004. In addition, there were 689 inpatient hospitalizations and 6,160 emergency room visits for fire/burn-related injuries.

DEATH TRENDS FOR FIRE/BURNS

Unintentional fire/burn-related deaths in Arizona are infrequent; therefore, mortality rates by age, gender, and race/ethnicity cannot be calculated. Figure 37 below shows the number of unintentional fire/burn-related deaths in Arizona over the last decade. In 1994, there were twice as many fire/burn-related deaths as in 2004 (with 60 in 1994 and 30 in 2004). Although the numbers are small and should be interpreted with caution, the decrease in the number of deaths combined with the population increase in the state suggests that the number of fire/burn-related deaths may indeed be declining in Arizona.

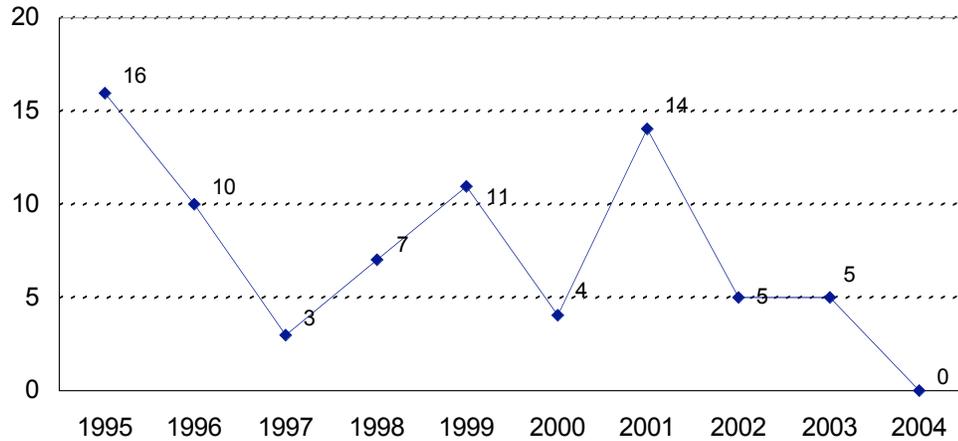
Figure 37. Number of Deaths due to Unintentional Fire and Flames
(Does not include hot object/scalds), Arizona, 1994-2004



Source: Arizona Health Status and Vital Statistics 2004, Injury Mortality Among Arizona Residents 1993-2003

No children in Arizona died due to fire/burn-related injuries in 2004. Since the number of Arizona children who die of burn injuries is small, annual data are highly variable, as shown in Figure 38.

Figure 38. Number of Deaths of Children (Ages 0-14) due to Unintentional Fire and Flames, Arizona, 1995-2004



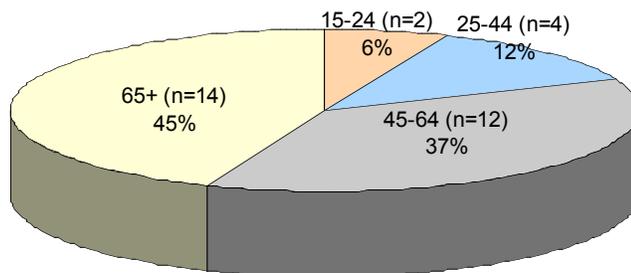
Source: Arizona Health Status and Vital Statistics 2004, Injury Mortality Among Arizona Residents 1993-2003

Arizona Child Fatality Review Teams reviewed 22 deaths from fire and burns occurring during the four-year period of 2001 through 2004. Eleven of the 22 deaths occurred during 2001, six in 2002, five in 2003, and none in 2004. Of the 22 deaths, 73 percent (n=16) were determined to be preventable. Two of the deaths occurred in homes with smoke detectors that were not functioning. Child Fatality Teams were unable to determine whether or not a smoke detector was present in more than half of the deaths (n=12, 55 percent). From a public health standpoint, such incomplete investigative information adds to the difficulty in the development of data driven prevention strategies.

DEATHS FROM FIRE/BURNS

Among the 32 fire/burn-related deaths, 56.3 percent were males (n=18) and 43.7 percent were females (n=14). Of those 32 deaths, 2 deaths were due to hot objects or scalds. Adults over the age of 65 accounted for 45 percent (n=14) of fire/burn-related deaths. Figure 39 shows the age distribution of Arizona residents who died during 2004.

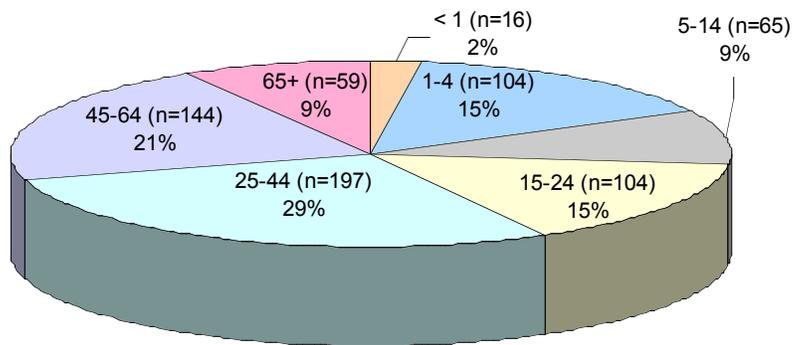
Figure 39. Fire/Burn-Related Deaths by Age Group, Arizona 2004



INPATIENT HOSPITALIZATIONS FOR FIRE/BURNS

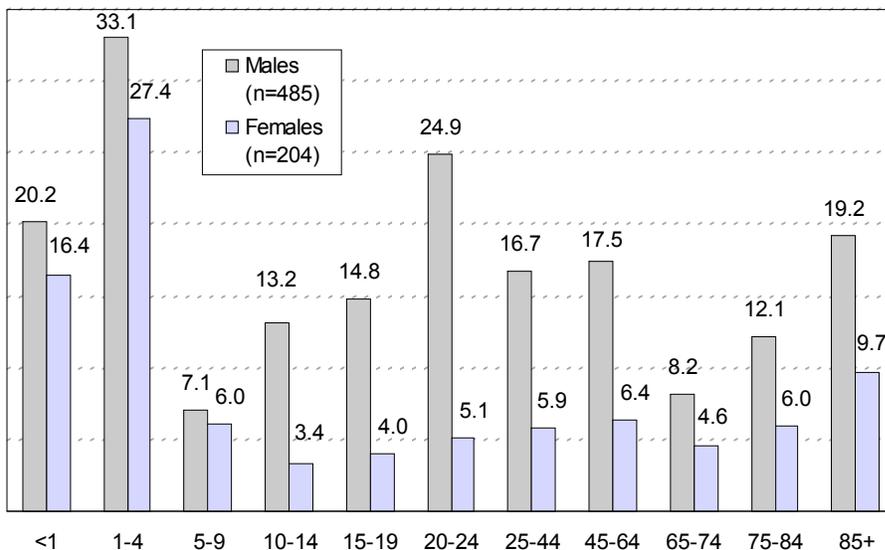
There were 689 inpatient hospitalizations for fire/burn-related injuries among Arizona residents in 2004; 70.4 percent were males (n=485) and 29.6 percent were females (n=204). Of those hospitalized for fire/burn-related injuries, 13 died. Adults ages 25-44 accounted for 29 percent (n=197) of hospitalizations due to fire/burn-related injuries. Figure 40 shows the age distribution of Arizona residents who were hospitalized for fire/burns during 2004.

Figure 40. Unintentional Fire/Burn-Related Inpatient Hospitalizations by Age Group, Arizona 2004



Children 1-4 years of age had the highest hospitalization rates due to unintentional fire/burn-related injuries; males (33.1 per 100,000) and females (27.4 per 100,000). Figure 41 illustrates the 2004 hospitalization rates for unintentional fire/burn-related injuries by age group and gender for Arizona residents.

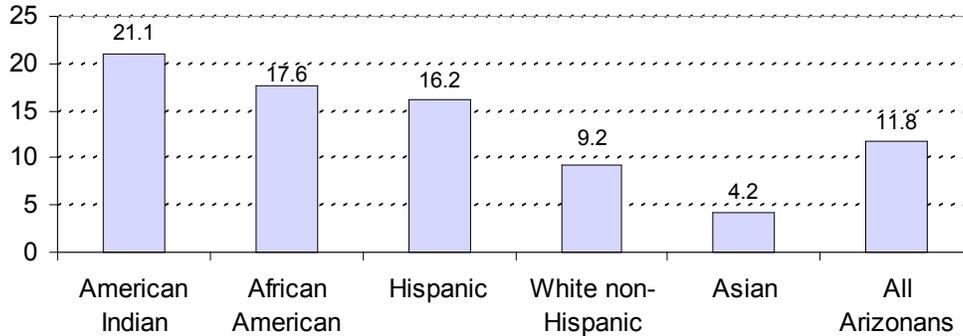
Figure 41. Unintentional Fire/Burn-Related Inpatient Hospitalization Rates per 100,000 Population, Arizona 2004



Inpatient hospitalizations due to fire/burn-related injuries are almost evenly split between fire/flame-related injuries (47 percent) and hot object/scalds (53 percent). Among Arizona children 0-14, 68 percent of hospitalizations for burn injuries were sustained from scalding in 2004, which indicates an important focus area for prevention.

Inpatient hospitalization rates due to fire/burn-related injuries also differ by race/ethnicity in Arizona. Hospitalization rates were highest among American Indians (21.1 per 100,000). Rates for White non-Hispanics (9.2 per 100,000) and Asians (4.2 per 100,000) were below Arizona's rate of 11.8 per 100,000 for all racial/ethnic groups. Figure 42 shows the 2004 age-adjusted hospitalization rates for fire/burn-related injuries by race/ethnicity in Arizona.

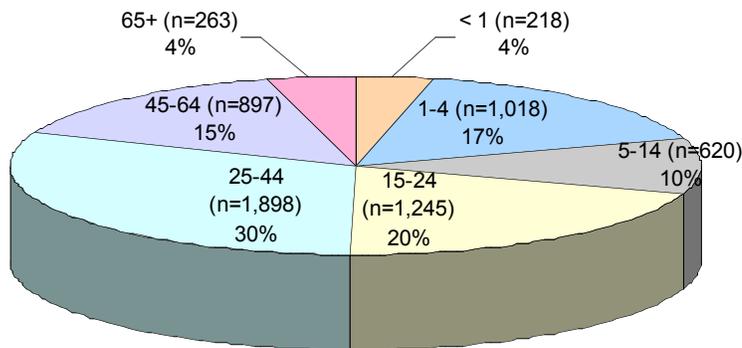
Figure 42. Age-Adjusted Unintentional Fire/Burn-Related Inpatient Hospitalization Rates per 100,000 by Race/Ethnicity, Arizona 2004



EMERGENCY DEPARTMENT VISITS FOR FIRE/BURNS

There were 6,160 emergency department visits for fire/burns among Arizona residents in 2004; 54.5 percent were males (n=3,356) and 45.5 percent were females (n=2,804). There were no deaths among those seen in the emergency department for fire/burns. Adults age 25-44 accounted for 30 percent (n=1,898) of emergency department visits for fire/burns. Figure 43 shows the age distribution of Arizona residents who were seen in the emergency department for fire/burns during 2004.

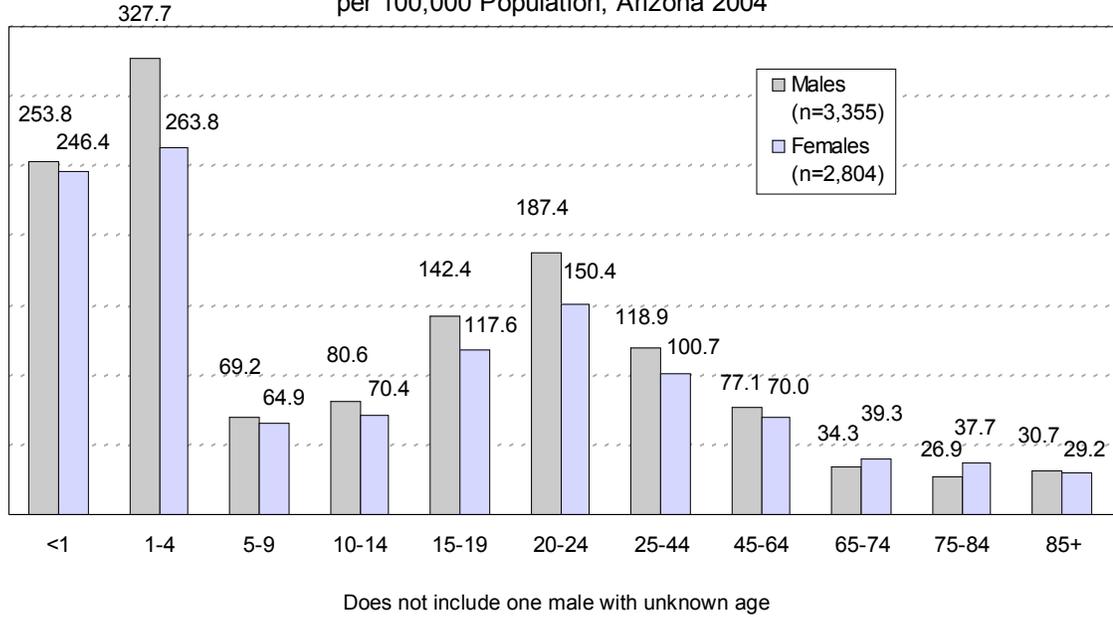
Figure 43. Unintentional Fire/Burn-Related Emergency Department Visits by Age Group, Arizona 2004



Does not include one male with unknown age

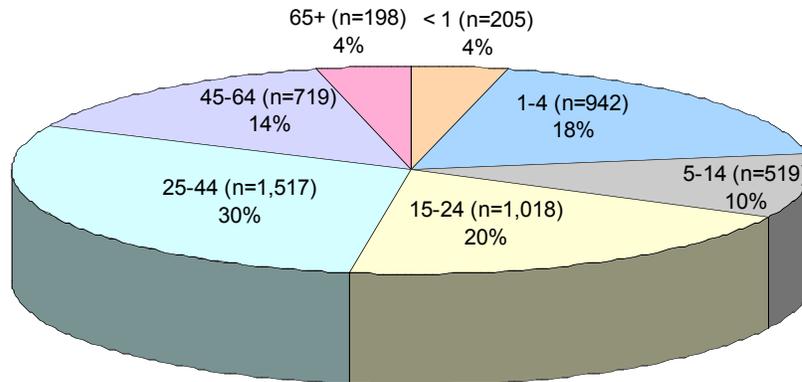
As in hospitalizations, children 1-4 years of age had the highest emergency room visit rates due to unintentional fire/burn-related injuries (327.7 per 100,000 for males and 263.8 per 100,000 for females). Figure 44 shows the 2004 emergency room visit rates for unintentional fire/burn-related injuries by age group and gender for Arizona residents.

Figure 44. Unintentional Fire/Burn-Related
Emergency Department Visit Rates
per 100,000 Population, Arizona 2004



The majority (83 percent) of fire/burn-related injuries seen in the emergency department were due to hot objects or scalds. Hot objects or scalds include burns from hot liquids, vapors, or chemicals. For children 14 years and under with an emergency department visit due to a burn or scald, 29 percent were burnt or scalded by boiling water, vapor, or other hot liquid. The majority (53 percent) however, had a code indicating that they had been burnt or scalded by an “other” category, which includes burns or scalds from electric heating appliances, light bulbs or steam pipes. While children age 1-4 make up only 6 percent of the population in Arizona, they accounted for 18 percent (n=942) of emergency department visits due to scald-related injuries. Figure 45 illustrates the age distribution of Arizona residents who were seen in the emergency room for hot object/scald-related injuries during 2004.

Figure 45. Emergency Department Visits due to Hot Object/Scald-Related Injuries by Age Group (n=5,118), Arizona 2004



EXISTING SURVEILLANCE SYSTEMS

Arizona Vital Records death certificate data, hospital discharge data, and emergency department data, are the primary sources for analyzing fire/burn injuries. The Arizona Burn Center Registry at Maricopa Medical Center also keeps certain specific data. The Arizona Department of Health Services Trauma Registry records only those burn injuries occurring with other trauma. The Child Fatality Review Team reviews burn-related deaths of children from 0–17 across the state, using law enforcement and medical examiner reports to assess intent and causal agent(s).

Fire departments in Arizona can voluntarily report fire incidents to the National Fire Incident Reporting Service (NFIRS). NFIRS uses this data to help State and local governments develop fire reporting and analysis capability for their own use, and to obtain data that can be used to more accurately assess and subsequently combat the fire problem at a national level.

SUMMARY/HIGHLIGHTS OF DATA

In Arizona during 2004:

- In 1994, there were twice as many fire/burn-related deaths as in 2004 (with 60 in 1994 and 30 in 2004).
- There were no deaths to children under the age of 18 in 2004.
- While children age 1-4 make up only 6 percent of the population in Arizona, they accounted for 15 percent of hospitalizations and 17 percent of emergency department visits due to fire/burn-related injuries.

- Among racial/ethnic groups, American Indians had the highest hospitalization rate due to fire/burn-related injuries (21.1 per 100,000).

LIMITATIONS OF DATA

- The Trauma Registry includes burns only if sustained with other traumatic injuries
- There is no mechanism to collect information on burn injuries treated without hospitalization or Emergency Room entry. Minor burns, which include the majority of thermal injuries, are often treated effectively in emergent care agencies in the community, primary care offices and in the home.
- The National Fire Incident Report System (NFIRS) collects nationwide data from fire services on reports from fire services across the states.
 - Trends, outcomes and comparisons are reported back to the fire agencies
 - Recently the Phoenix fire Department has stopped NFIRS reporting because of manpower and hardware issues.
- Data on smoke alarms at the state level are incomplete.
 - The state has no system to monitor the use of smoke alarms although such information may be included in individual reporting from fire services.
 - Not all fire service agencies collect or report smoke alarm use data from fire service calls or may do so inconsistently.
- Use of mortality data to promote prevention of thermal injury gives an incomplete and distorted picture of the public health problem and strategies for prevention
 - Incidence of injury and survival among younger ages requires life long cost expenditures
 - While most fatalities occur in residential fires, most burn injuries result from scalds

CURRENT INTERVENTIONS

PREVENTION EFFORTS

Fire services have taken a leadership role in fire and burn prevention, being actively involved in programs for children and adults. Much of this prevention effort occurs at local levels, primarily city or county. There is a strong national organization, the National Fire Protection Association (NFPA), which supports educational and risk reduction efforts locally and within states as well as monitoring national data. In Arizona, local fire departments vary in what prevention programs they offer, but many present programs in schools and other community events.

In Phoenix, the Urban Survival program offers fire prevention and life safety skills in the community, elementary and high schools. Other community fire departments have adopted the NFPA's school based Risk Watch program and many fire departments offer a juvenile fire setters intervention program. A special "Choose to Survive" version for high schools has proved successful. Besides fire safety, bicycle, water and car seat safety programs are frequently part of the community education offered.

A number of other community based fire alert and prevention efforts exist including Think First and SAFE KIDS. City of Mesa offers the Prevention and Risk Assessment Initiating Safer Environments Program (PRAISE) that uses trained volunteers who provide safety checks and offer to homeowners smoke detectors.

Hospital Emergency Departments, the Arizona Burn Center at Maricopa Integrated Health Systems and the Foundation for Burns & Trauma continuously work to reduce morbidity and mortality of victims through prevention and treatment education, research and dissemination of effective practices. An anti-scald campaign is being instituted statewide by the Arizona Burn Center and the Foundation for Burns & Trauma.

Despite all efforts directed toward prevention, fire and scald injuries continue to occur. It is vital that thermal injury safety remain a core focus for injury prevention. Fire and burn prevention efforts at the state level must build partnerships with existing fire services to support prevention efforts, including monitoring the use of smoke alarms.

STRATEGIC PLAN FOR 2006-2010

Injury Name: Fire and Burn Injuries		
Objective #1: Expand relationships among existing reporting systems to facilitate analysis of data on fire and burn injuries statewide		
Strategic Intervention	Action Steps	Key Partners
1) Strengthen relationships among existing fire and burn injury surveillance systems in the state and continue to work toward consistent, standardized, reliable and complete information	<p>Establish systematic sharing of data from hospitals, emergency departments, vital records, Arizona Burn Center, with regular discussion of results and suggestions for improvement</p> <p>Include outside information sources such as NFIRS, NFPA, NEISS</p> <p>Explore ways to include tribal data and prevention issues in strategic interventions</p>	<p>Hospital emergency departments</p> <p>Arizona Burn Center</p> <p>Child Fatality Review Teams</p> <p>Tribes in AZ, Inter-Tribal Council of Arizona, Indian Health Services</p> <p>Foundation for Burns and Trauma</p> <p>Insurance Companies, AZ Dept of Insurance</p> <p>ADHS, County Health Departments</p>
2) Encourage fire departments and other fire and injury agencies to report fires and fire injuries consistently	Work through Regional EMS Councils to strategize systematic and reliable recording and use of current data collection systems	<p>Fire departments and Emergency Medical Services systems: local and regional</p> <p>ADHS, County Health Departments</p> <p>Indian Health Services</p>

Injury Name: Fire and Burn Injuries		
Objective #2: Reduce injury from fire and flames		
Strategic Intervention	Action Steps	Key Partners
1) Encourage local agencies to provide community education to <ul style="list-style-type: none"> • prevent fires, thermal injuries • react appropriately when a fire or burn injury occurs • support community 	<p>Collaborate with EMS Regional Councils to develop appropriate strategies</p> <p>Identify nationally proven materials for use in community education and outreach programs, for example, Arizona Fire and Burn Educators Association website (afbea.org) Home</p>	<p>Emergency Medical Services Regional Councils</p> <p>Schools</p> <p>ADHS, County Health Departments</p> <p>Arizona Burn Center</p>

Injury Name: Fire and Burn Injuries		
Objective #2: Reduce injury from fire and flames		
Strategic Intervention	Action Steps	Key Partners
programs to aid victims of thermal injury	<p>Fire Safety Checklist, kids safety materials, etc.</p> <p>Partner with CBOs to utilize relevant data in developing strategic interventions</p>	<p>Cities, towns, Tribes in Arizona, Local fire departments</p> <p>Indian Health Services</p>
2) Provide culturally appropriate information for homeowners and renters on appropriate use of smoke alarms	<p>Collect information on fire and burn education being done by and in EMS Regions, including Tribal efforts</p> <p>Contact local community Welcoming Committees and realtors to encourage installation and maintenance of functional smoke alarms</p> <p>Develop residents' understanding and cooperation in monitoring and maintaining alarms</p> <p>Collaborate with existing partners to compile inventory of nationally proven educational materials (afbea.org)</p>	<p>Housing inspectors</p> <p>Landlord organizations</p> <p>Media (print, radio, TV, movie trailers)</p> <p>Retailers</p> <p>Professional realtor organizations</p> <p>Insurance companies</p> <p>Fire departments, Emergency Medical Services</p> <p>Welcoming committees</p> <p>Housing and Urban Development offices</p> <p>ADHS, County Health Departments</p> <p>Indian Health Services</p>

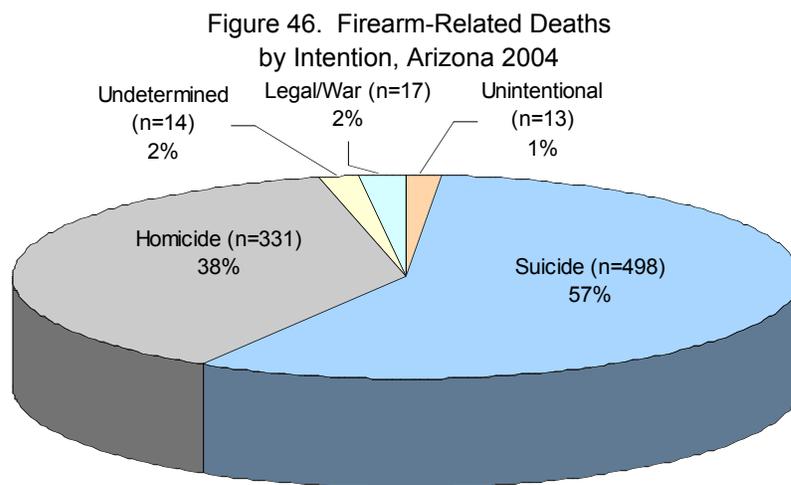
Injury Name: Fire and Burn Injuries		
Objective #3: Reduce the incidence of scald injuries and deaths through community education and interventions		
Strategic Intervention	Action Steps	Key Partners
1) Expand state wide anti-scald campaign for children and older adults	<p>Seek funding for media campaign(s)</p> <p>Develop liaisons through local health departments, pediatricians' offices, newborn nurseries, pre-natal clinics and classes, day care and group homes for children and adults</p> <p>Incorporate safe practices for water testing and temperatures into home safety checklists</p>	<p>Arizona Burn Center</p> <p>Foundation for Burns and Trauma</p> <p>Insurance companies</p> <p>Fire departments and Emergency Medical Services systems: local and regional</p> <p>Hospital emergency departments</p> <p>Child Fatality Review Teams</p> <p>ADHS, County Health Departments</p> <p>Indian Health Services</p>

UNINTENTIONAL FIREARM INJURIES

BACKGROUND

The Centers for Disease Control and Prevention (CDC), National Center for Injury Prevention and Control defines unintentional firearm death as a death resulting from "...a penetrating injury or gunshot wound from a weapon that uses a powder charge to fire a projectile when there was a preponderance of evidence that the shooting was not intentionally directed at the victim..."¹ The CDC definition includes handguns, shotguns, rifles, and military firearms but excludes wounds from BB and pellet guns. These injuries are captured as part of other injuries.

This chapter will focus primarily on unintentional firearm injuries. Although only 1 percent (n=13) of all firearm-related deaths were unintentional in Arizona during 2004, these deaths are most likely preventable. Injuries related to intentional use of firearms can be found in the homicide and suicide chapters. Figure 46 shows the firearm-related deaths by intent for Arizona during 2004.



According to a study conducted by the Centers for Disease Control in 1997, the unintentional firearm death rate for children under the age of 15 in the United States was nine times higher than in the 26 other industrialized nations of comparable economic status (0.36 per 100,000 compared with 0.04).² In Arizona from 1994 to 2004, 17 percent (n=29) of all firearm-related deaths in children

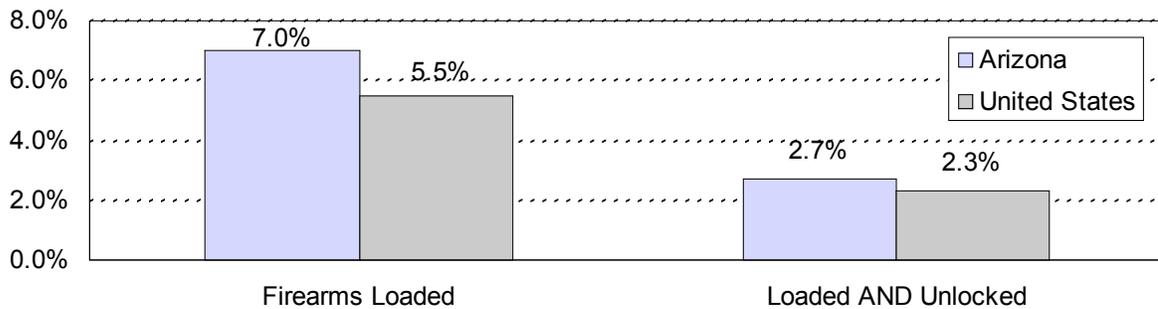
¹ <http://www.cdc.gov/ncipc/pub-res/nvdrs-coding/VS2/NVDRS%20Coding%20Manual%20Full.pdf>, accessed 11/25/2005.

² Rates of Homicide, Suicide, and Firearm-Related Death Among Children – 26 Industrialized Countries. <http://www.cdc.gov/mmwr/preview/mmwrhtml/00046149.htm>, accessed 11/26/2005.

under the age of 15 was unintentional.³ The age group with the largest proportion of unintentional firearm-related deaths during this time-period was the 20-44 year old group, which accounted for 44 percent (n=124) of the 279 unintentional firearm-related deaths.

Research has shown that keeping a gun locked, unloaded, storing ammunition in separate location and locking ammunition are each associated with a protective effect in reducing firearm-related injuries to children and teenagers in homes where guns are stored.⁴ In 2004, the Behavioral Risk Factor Surveillance System collected data from all 50 states and the District of Columbia on household firearms. The survey asked three questions, “Are any firearms kept in or around your home?”, “Are any of these firearms now loaded?”, and “Are any of these loaded firearms also unlocked”? Results of the 2004 Behavioral Risk Factor Survey indicate that firearms are present in 31.4 percent of households in Arizona and in 31.3 percent of households nationwide. A higher percentage of Arizonans reported that they kept loaded firearms (9.0 percent in Arizona compared to 6.7 percent nationally). Arizonans were also more likely to keep loaded and unlocked firearms in or around the house (5.9 percent of households in Arizona compared to 4.0 percent nationwide). Figure 47 below shows that, of those households with children under 18 years of age, households in Arizona were more likely than the national average to have loaded guns in the house, and to keep these loaded guns in unlocked areas of the house.

Figure 47. Percent of Households with Children Under 18 with Loaded and Unlocked Firearms, Behavioral Risk Factor Surveillance Survey, 2004



Each year since 1997, the Brady Campaign to Prevent Gun Violence has issued report cards for all 50 states. These report cards graded each state on seven measures that are thought to be effective in reducing firearm injuries. In 2004, The Brady Campaign gave Arizona a “D” because the state

- Has no state law restricting assault weapons or rapid fire ammunition magazines

³ Injury Mortality Among Arizona Residents, Firearm-Related Deaths, Arizona, 1994-2004. <http://www.azdhs.gov/plan/report/im/im/im04/7/firearms2004.pdf>, accessed 02/23/06.

⁴ Gun Storage Practices and Risk of Youth Suicide and Unintentional Firearm Injuries, Journal of the American Medical Association, Vol. 293 No. 6, February 9, 2005.

- Does not require background checks at gun shows
- Does not require child-safety locks to be sold with guns
- Does not hold adults responsible for leaving loaded guns around children.

The Brady Report noted that, on the positive side, Arizona does regulate the sale and possession of guns for minors.⁵

In Arizona, incidents of guns caught on public schools are monitored through the Arizona Department of Education's Safe and Drug Free Schools Report. According to this report, there were 56 incidents involving students bringing guns to campus in Arizona during the 2003-2004 school year. Among them 36 were in high school, 14 in middle school, and 6 were in elementary schools.⁶ Not all guns that are brought to school are detected and reported. According to the Arizona Criminal Justice Commission's Arizona Youth Survey, 6.1 percent of 8th, 10th, and 12th graders had carried a handgun in the last 12 months and 1.5 percent brought a gun to school during that time.⁷

There has been an overall decrease since the early 1990s in some of the behaviors that contribute to violence. National Youth Risk Behavior Survey data show decreases in the percent of students reporting carrying a weapon (e.g. gun, knife, club) in the last thirty days, whether on or off campus, from 26 percent in 1991 to 17 percent in 2003. Students were also less likely to have carried a gun in the last thirty days (8 percent in 1993 compared to 6 percent in 2003). According to the 2005 Youth Risk Behavior Survey, 6.9 percent of students in Arizona carried a gun in the thirty days preceding the survey.

In addition to 13 deaths, there were 190 inpatient hospitalizations and 465 emergency room visits for unintentional firearm injuries in Arizona during 2004.

⁵ <http://www.bradycampaign.org/facts/reportcards/2004/az.pdf>, accessed 11/27/2005.

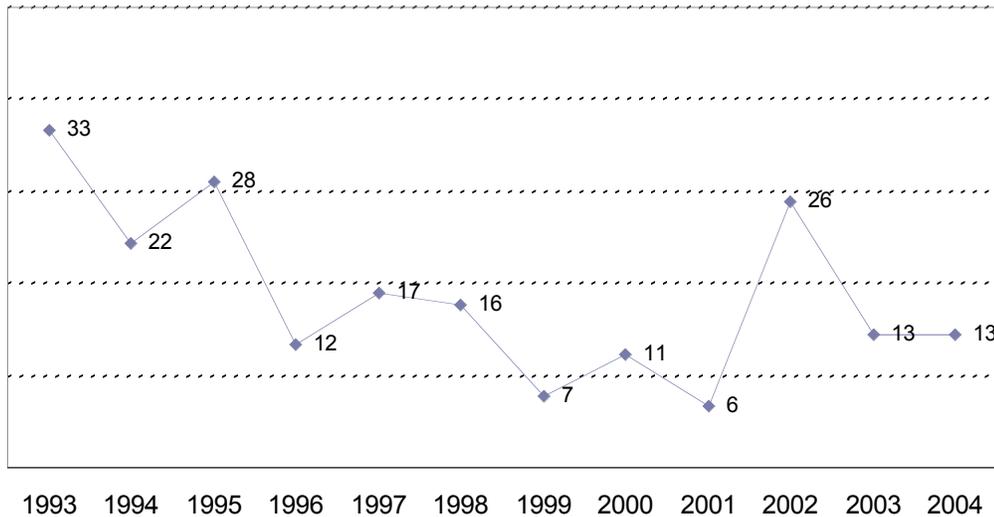
⁶ E-mail from Jean Ajamie, 11/25/2005.

⁷ Arizona Youth Survey State Report, 2004. <http://azcjc.gov/pubs/home/2004AYSStateReports.pdf>, accessed 11/27/2005.

DEATH TRENDS FOR UNINTENTIONAL FIREARM INJURIES

Unintentional firearm-related deaths in Arizona are infrequent; therefore, mortality rates by age, gender, and race/ethnicity cannot be calculated. As seen in Figure 48, the number of unintentional firearm-related deaths has fluctuated between 33 and six per year in Arizona over the last decade.

Figure 48.
Number of Unintentional Firearm-Related Fatalities,
Arizona, 1993-2004

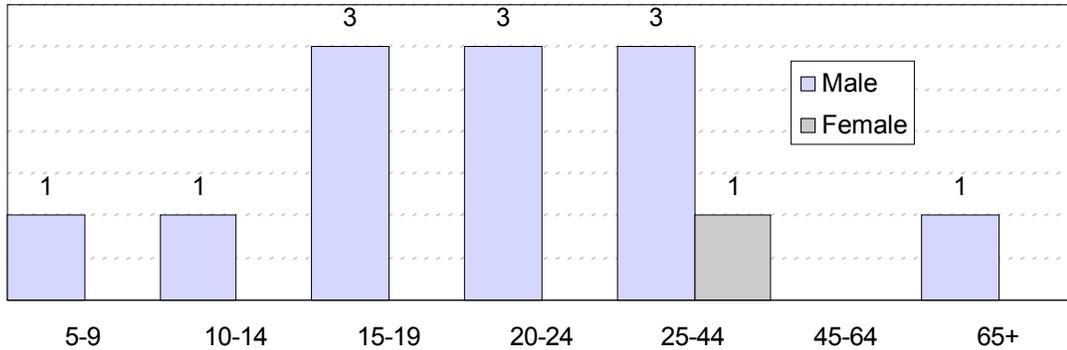


Source: Injury Mortality Among Arizona Residents 1993-2003 and 2004 death certificate data

UNINTENTIONAL FIREARM DEATHS

Among the 13 unintentional firearm deaths of Arizona residents in 2004, only one was female. As seen in Figure 49, 69 percent (n=9) of deaths due to unintentional firearm-related injuries were males ages 15-44.

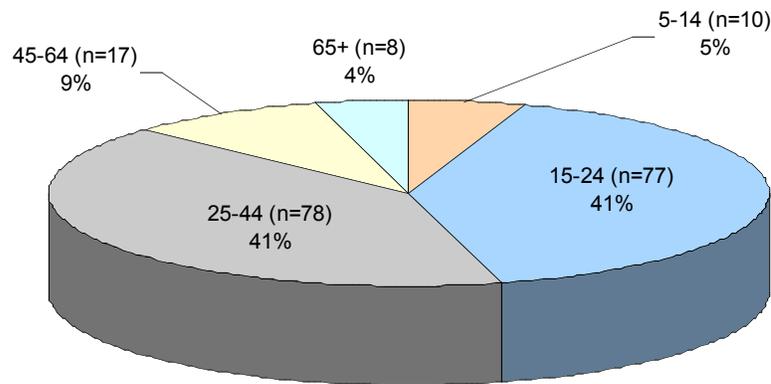
Figure 49. Number of Unintentional Firearm-Related Deaths by Age Group and Gender, Arizona 2004



INPATIENT HOSPITALIZATIONS FOR UNINTENTIONAL FIREARM INJURIES

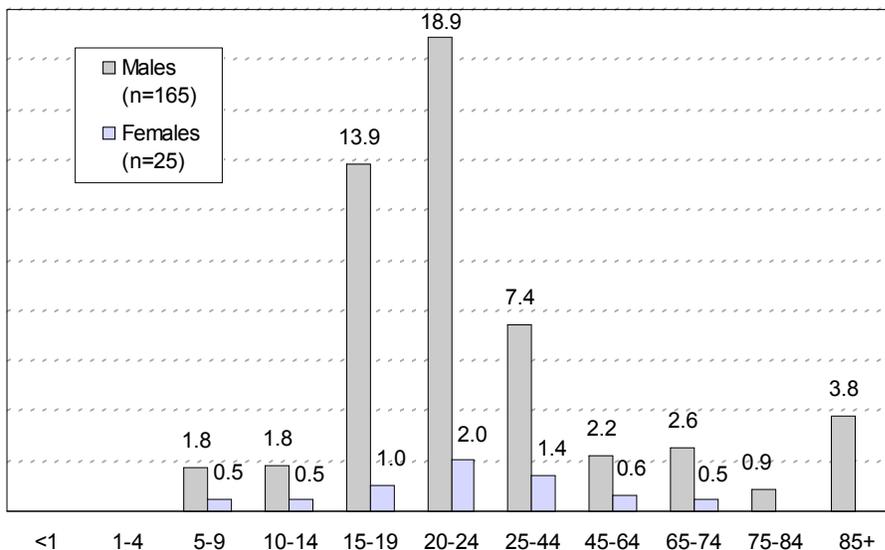
There were 190 inpatient hospitalizations for firearm injuries among Arizona residents in 2004; 86.8 percent were males (n=165) and 13.2 percent were females (n=25). Of those hospitalized for unintentional firearm injuries, 3 died. The 15-24 (n=77) and 25-44 (n=78) age groups each accounted for 41 percent of unintentional firearm-related hospitalizations. Figure 50 shows the age distribution of Arizona residents who were hospitalized for firearm injuries during 2004.

Figure 50. Unintentional Firearm-Related Inpatient Hospitalizations by Age Group, Arizona 2004



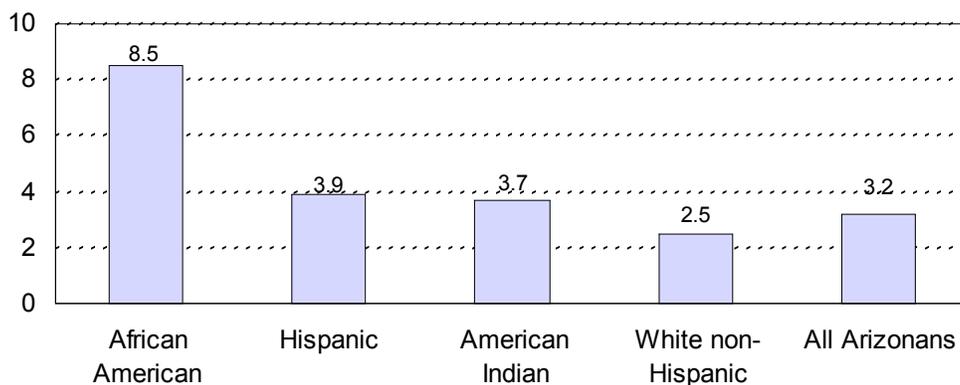
Males age 20-24 had the highest hospitalization rate for unintentional firearm-related injuries (18.9 per 100,000). Figure 51 illustrates the 2004 hospitalization rates for firearm-related injuries by age group and gender for Arizona residents.

Figure 51. Unintentional Firearm-Related Inpatient Hospitalization Rates per 100,000 Population, Arizona 2004



There are substantial racial/ethnic differences in unintentional firearm-related hospitalization rates in Arizona. The 2004 age-adjusted hospitalization rate for all racial/ethnic groups was 3.2 per 100,000. Rates were highest among African Americans (8.5 per 100,000) and lowest for White non-Hispanics (2.5 per 100,000). There were no reported inpatient hospitalizations due to firearm injuries for Asians in 2004. Figure 52 below shows the 2004 age-adjusted hospitalization rates for firearm-related injuries by race/ethnicity in Arizona.

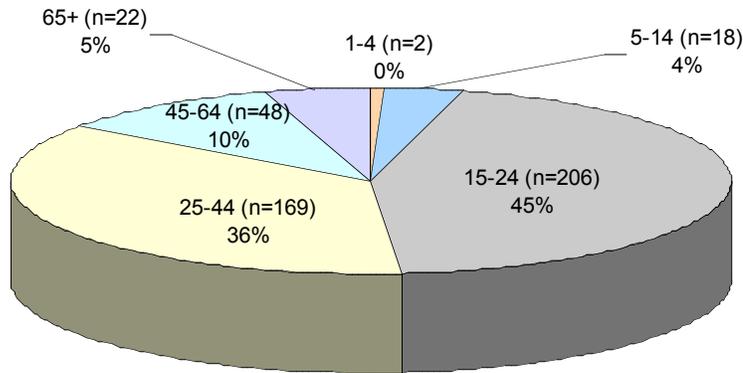
Figure 52. Age-Adjusted Unintentional Firearm-Related Inpatient Hospitalization Rates per 100,000 by Race/Ethnicity, Arizona 2004



EMERGENCY DEPARTMENT VISITS FOR UNINTENTIONAL FIREARM INJURIES

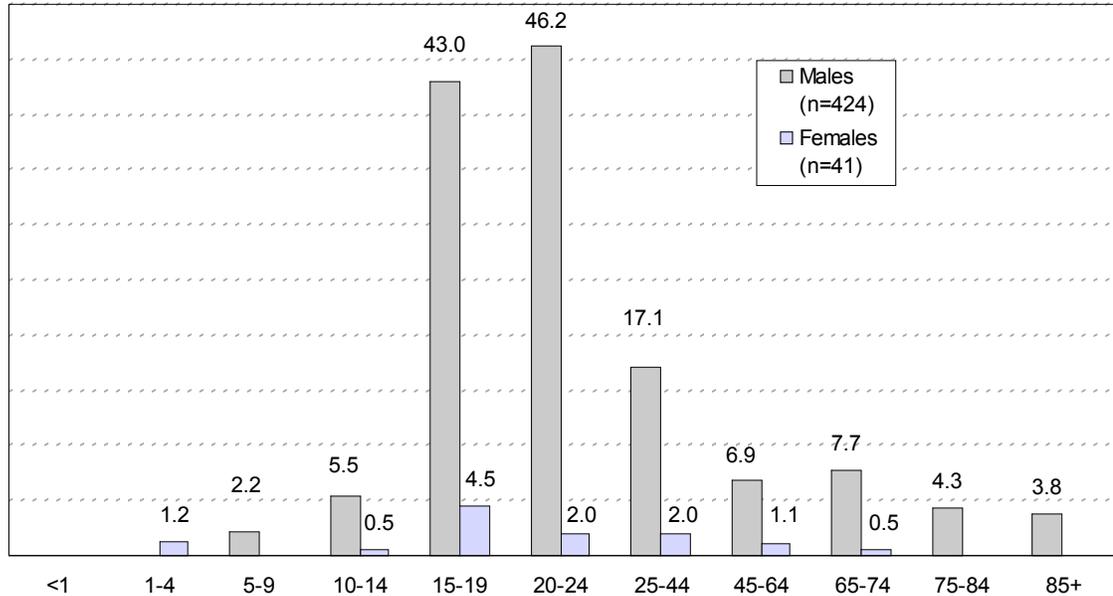
There were 465 emergency department visits for unintentional firearm injuries among Arizona residents in 2004; 91.2 percent were males (n=424) and 8.8 percent were females (n=41). Of those who were seen in the emergency department for unintentional firearm injuries, 15 died. Residents 15-24 years of age accounted for 45 percent (n=206) and adults 25-44 accounted for 36 percent (n=169) of emergency department visits due to unintentional firearm-related injuries. Figure 53 shows the age distribution of Arizona residents who were seen in the emergency department for firearm injuries during 2004.

Figure 53. Unintentional Firearm-Related Emergency Department Visits by Age Group, Arizona 2004



As in hospitalizations, males age 20-24 had the highest emergency department visit rates for unintentional firearm-related injuries (46.2 per 100,000 population). Figure 54 illustrates the 2004 emergency department visit rates for firearm-related injuries by age group and gender for Arizona residents.

Figure 54. Unintentional Firearm-Related
Emergency Department Visit Rates
per 100,000 Population, Arizona 2004



EXISTING SURVEILLANCE SYSTEMS

The systems that will be used to examine unintentional firearm injuries include death certificates, inpatient hospital discharge data, emergency department data, and Child Fatality Review data.

SUMMARY/HIGHLIGHTS OF DATA

In Arizona during 2004:

- Males 15-44 accounted for 69 percent (n=9) of unintentional firearm-related fatalities in 2004.
- 15-24 year olds accounted for 41 percent (n=77) of hospitalizations and 45 percent (n=206) of emergency department visits due to unintentional firearm-related injuries.
- Males 20-24 had the highest rates of hospitalizations (18.9 per 100,000) and emergency department visits (46.2 per 100,000) due to unintentional firearm-related injuries.
- Among racial groups, African Americans had the highest rate of unintentional firearm-related hospitalizations (8.5 per 100,000).

CURRENT INTERVENTIONS

- Distribute free gunlocks and firearm safety training through organizations such as Arizonans for Gun Safety, Arizona Firearm Safety Coalition and law enforcement agencies
- Distribute handbooks and brochures about domestic violence and guns through the Arizona Coalition Against Domestic Violence
- Hold public workshops on non-violent conflict resolution and gun safety.

ACCOMPLISHMENTS

- Eighty-one law enforcement offices in Arizona distributed free gunlocks through Project ChildSafe. 190,000 locks were allocated to Arizona through this national project.
- Community organizations have provided information on safe firearm storage, and distributed free trigger locks and instructions.
- In July of 2000, Shannon's law was enacted in Arizona, which makes it an offense to fire guns randomly into the air.

STRATEGIC PLAN FOR 2006-2010

Injury Name: Unintentional Firearm Injuries		
Objective #1: Reduce Firearm-Related Injuries		
Strategic intervention	Action Steps	Key Partners
1) From existing sources, collect and analyze data on fatal and nonfatal firearm injuries	<ul style="list-style-type: none"> Create and disseminate reports on firearms 	ADHS Community-based organizations Coroners and Medical Examiners
2) Review existing laws relating to access, use and storage of firearms	<ul style="list-style-type: none"> Compare Arizona statutes with other states and provide information to policy makers Educate the public and policy makers on existing laws Collaborate with law enforcement and judiciary to enforce current laws 	ADHS Law enforcement Juvenile Justice Courts
3) Develop data driven interventions to reduce deaths and injuries from firearms	<ul style="list-style-type: none"> Identify and encourage sharing of resources for prevention Develop recommendations for interventions and produce report 	ADHS Community-based organizations
4) Promote and enhance community-based initiatives aimed at reducing intentional and unintentional firearm injuries.	<ul style="list-style-type: none"> Enhance anti-violence programs using nationally recognized materials Identify and promote strategies proven to reduce firearm injuries Identify and promote strategies proven to reduce illegal possession of firearms 	ADHS Community-based organizations Law enforcement Arizona Department of Education Safe Kids and partners
5) Promote community interventions for firearm safety training for children and adults.	<ul style="list-style-type: none"> Develop and promote firearm safety programs involving many stakeholders in communities Encourage evaluation of firearm safety programs (require for state funded programs). 	ADHS Law enforcement Local health departments Arizona Department of Education

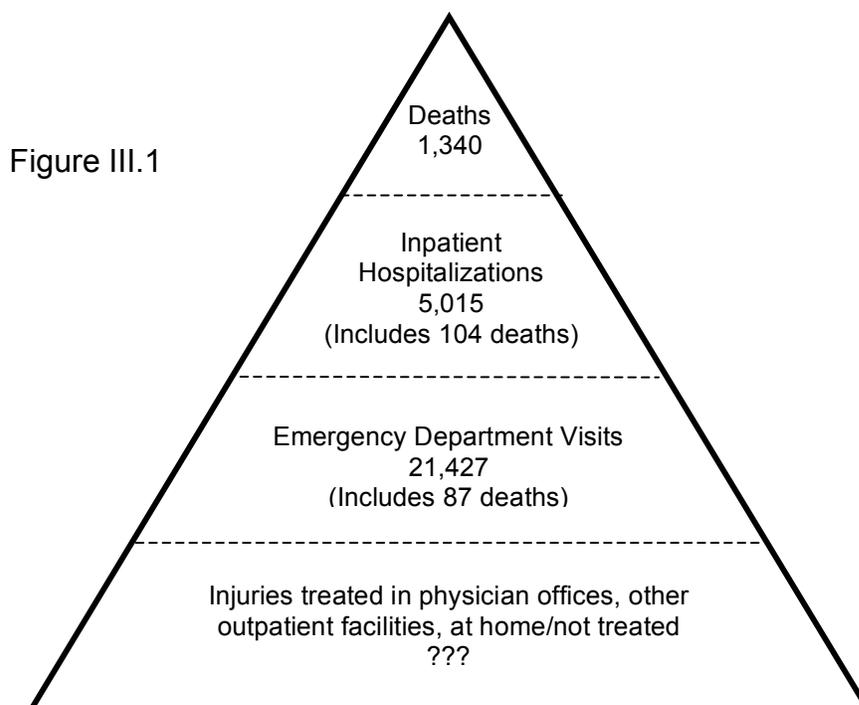
Strategic intervention	Action Steps	Key Partners
6) Promote safe storage of firearms and reduce access to firearms by children.	<ul style="list-style-type: none"> • Review existing policies and laws regarding access to firearms by children • Provide information to policy makers • Enforce existing laws • In collaboration with partners provide education on safe storage of firearms and ammunition and distribute safety locks • Destroy confiscated firearms • Identify corporate sponsors to help with locks and educational materials • Evaluate effectiveness of efforts • Compare Arizona statute related to access to firearms by children to those in other states and educate policymakers 	ADHS Community-based organizations Law enforcement

INTENTIONAL INJURIES

Intentional injuries encompass deaths and injuries that are self-inflicted or perpetrated by another person with the intent to harm. Intentional injuries are typically described as suicide, self-inflicted injuries, homicide, and assaults. Relationship violence such as domestic violence, sexual violence, child abuse, and adult abuse is a category of interpersonal violence that represents a growing public health concern. Incidents of relationship violence are highly underreported through official sources.

In 2004, intentional injuries accounted for 33 percent of all injury-related deaths, 13 percent of all injury-related hospitalizations, and 6 percent of all injury-related emergency department visits in Arizona. Suicides and homicides were among the top five leading causes of death for 1-44 year old Arizona residents in 2004.¹

There were 1,340 deaths from intentional injuries in Arizona during 2004. In addition, there were 5,015 inpatient hospitalizations (including 104 deaths) and 21,427 emergency room visits (including 87 deaths) for intentional injuries. These statistics do not include all injuries from relationship violence because of vast underreporting. Figure III.1 below shows the injury pyramid for suicide/self-inflicted injuries and homicide/assault in Arizona during 2004.



¹ Arizona Health Status and Vital Statistics 2004

SUICIDE/SELF-INFLICTED INJURIES

BACKGROUND

Suicide, death from intentional self-inflicted injury, was the second leading cause of death for 15-19 year olds, the third leading cause for 20-24 year olds, and the ninth leading cause of death for all age groups combined in Arizona during 2004.¹ The most recent national comparison available (2003) ranks Arizona tenth in the nation for its overall suicide rate.² Understanding the risk factors associated with suicide can help dispel the myth that suicide is a random act or results from stress alone.³

Mechanisms of suicide include firearms; poisoning (overdose of prescription or non-prescription medications, overdose of illegal drugs, ingestion of toxic substances, and exposure to gases); suffocation (hanging); and cutting and piercing. For a more detailed description of poisoning please see the poisoning chapter in this Injury Plan.

Mental health diagnoses are generally associated with a higher rate of suicide. Psychological autopsy studies reflect that more than 90 percent of completed suicides had one or more mental disorders.⁴ In addition to mental and substance abuse disorders, risk factors include prior suicide attempt, stressful life events, and access to lethal suicide methods. Males are also four times more likely to die from suicide than females.⁵ Suicide is a complex behavior that can be prevented in many cases by early recognition of risk factors, appropriate treatment of mental and substance abuse disorders, and restricting access to lethal weapons.⁶

Self-inflicted injuries can include both suicide attempts and self-harm which are two very different acts. A suicide attempt is an intentional act of taking one's own life. Women also report attempting suicide during their lifetime about three times more often than men.⁷ According to a recent report by the CDC, 60 percent of

¹ Arizona Health Status and Vital Statistics 2004.

² <http://www.suicidology.org/associations/1045/files/2002statedatapg.pdf>, accessed 11/25/05.

³ <http://www.surgeongeneral.gov/library/calltoaction/calltoaction.pdf>, accessed 11/18/2005.

⁴ The American Association of Suicidology, 2002. <http://www.suicidology.org>.

⁵ Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [Online]. (2005) {cited 2006 Feb 6}. Available online from: URL: <http://www.cdc.gov/ncipc/wisqars/default.htm>.

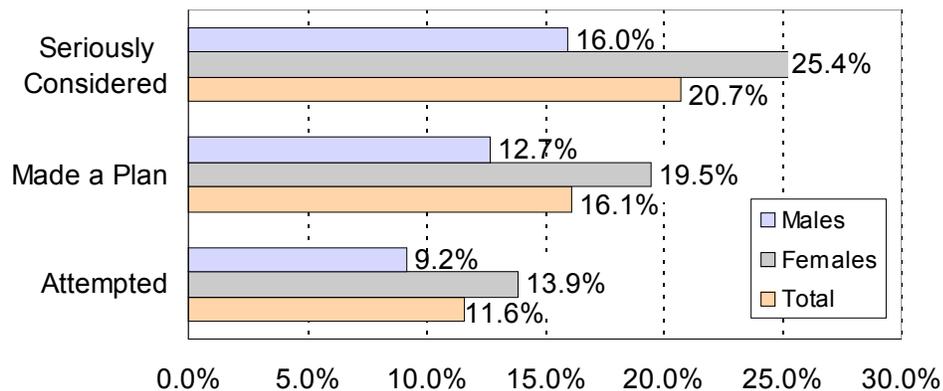
⁶ <http://www.mentalhealth.samhsa.gov/suicideprevention/2010.asp>, accessed 11/18/05.

⁷ Krug EG, Dahlberg LL, Mercy JA, Zwi AB, Lozano R, editors. World report on violence and health [serial online]. 2004 May. Available online from: URL: http://www.who.int/violence_injury_prevention/violence/world_report/wrvh1/en.

nonfatal self-inflicted injuries treated in hospital emergency departments were probable suicide attempts.⁸

The Youth Risk Behavior Survey (YRBS) monitors adolescent suicide ideation and suicide attempts for students in grades 9-12. The 2005 YRBS data shows that 20.7 percent of students in Arizona said that they had seriously considered suicide, 16.1 percent said they had made a plan, and 11.6 percent said they had actually attempted suicide. While males commit suicide at a higher rate, YRBS data confirms that females are at higher risk of suicide ideation and attempted suicide. Among females, 25.4 percent had seriously considered suicide, 19.5 percent had made a plan, and 13.9 percent said they had actually attempted suicide. Figure 55 shows the suicide risks by gender for grades 9-12.

Figure 55. Suicide Risk Grades 9-12 in Last 12 Months, Arizona 2005



On the other hand, self-harm is an intentional act without conscious suicidal intent, initiated as a way of coping with psychological pain or trauma. Self-harm includes behaviors such as cutting or burning oneself, bone-breaking, ingesting a higher than normal dose of medications or illicit drugs, and ingesting toxic substances. Additionally, self-harming behaviors may be symptoms of a mental health problem such as depression and mood or anxiety disorders. People who self-harm are also 18 times more likely than the general population to die at their own hand by causing more harm than they intended.^{9,10}

In Arizona, there were 854 suicides during 2004. Additionally, there were 2,904 inpatient hospitalizations and 5,801 emergency room visits for self-inflicted injuries.

⁸ Centers for Disease Control and Prevention, Morbidity and Mortality Weekly Report, May 24, 2002 / 51(20);436-8. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5120a3.htm>, accessed 03/15/2006.

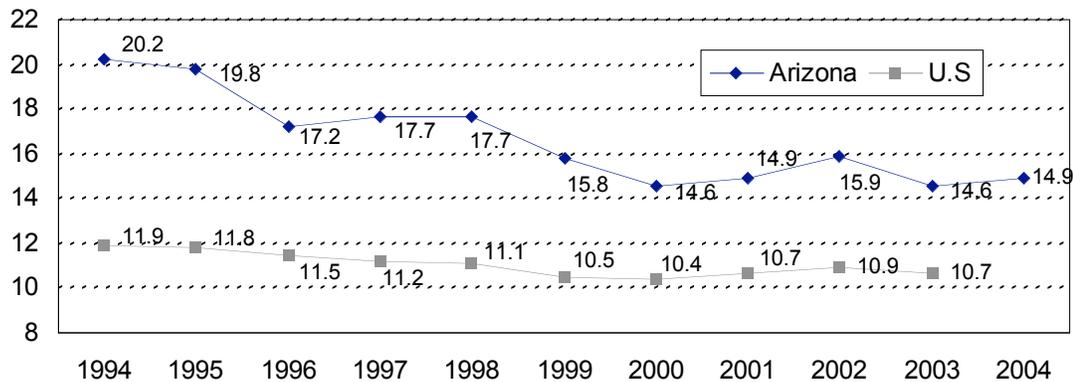
⁹ National Mental Health Association. "Self-Injury." 2005. www.nmha.org/infoctr/factsheets/selfinjury.cfm (8 Aug. 2005).

¹⁰ McAllister, M. (2003). Multiple meanings of self-harm: A critical review. *Int J Ment Health Nurs*, 12(3), 177.

SUICIDE TRENDS

Arizona's suicide rate has been consistently higher than the national rate for the last decade. Figure 56 below shows the age-adjusted suicide rates for the nation and Arizona. While the age-adjusted suicide rate in Arizona has decreased from a rate of 20.2 per 100,000 in 1994, to 14.9 in 2004, it remains higher than the national rate. In the most recent comparison (2003), the Arizona age-adjusted suicide rate of 14.6 was considerably higher than the national rate of 10.7 per 100,000.¹¹

Figure 56. Age-Adjusted Suicide Rates per 100,000, Arizona Compared to U.S., 1994-2004



Source for Arizona: Arizona Health Status and Vital Statistics 2004

Source for United States: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Web-based Injury Statistics Query and Reporting System (WISQARS)

Suicide rates increase with age and are highest among Americans aged 65 years and older. The suicide rate among people ages 65 and older was significantly higher in Arizona than in the United States, with a rate of 23.2 per 100,000 compared to the national rate of 14.6 per 100,000 in 2003.¹²

SUICIDES

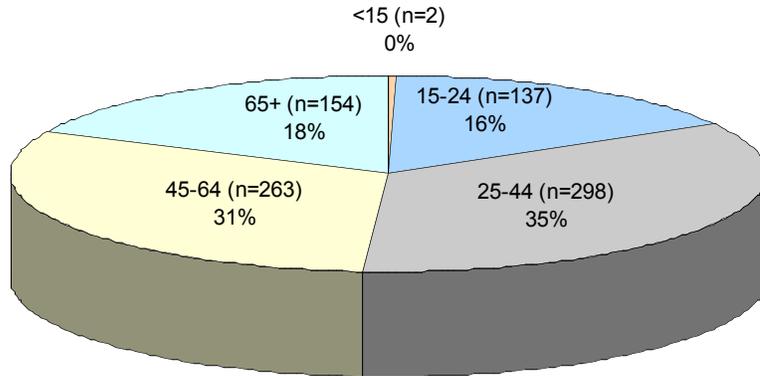
Among the 854 individuals who died by suicide, 78.9 percent were males (n=674) and 21.1 percent were females (n=180). Adults aged 25-44 accounted for 35 percent (n=298) and adults aged 45-64 accounted for 31 percent (n=263) of

¹¹ Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [Online]. (2005) {cited 2006 Feb 6}. Available online from: URL: <http://www.cdc.gov/ncipc/wisqars/default.htm>.

¹² Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [Online]. (2005) {cited 2006 Feb 6}. Available online from: URL: <http://www.cdc.gov/ncipc/wisqars/default.htm>.

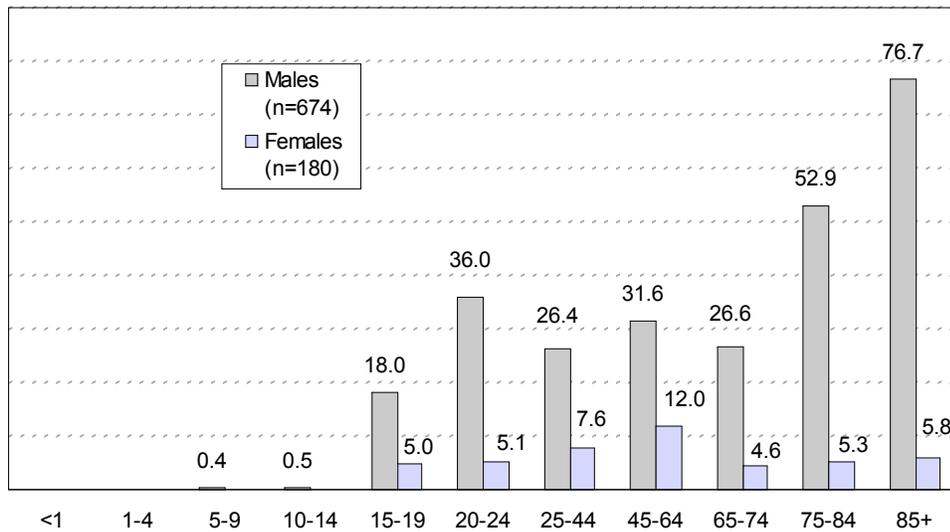
suicides. Figure 57 shows the age distribution of Arizona residents who died from suicide during 2004.

Figure 57. Suicides by Age Group, Arizona 2004



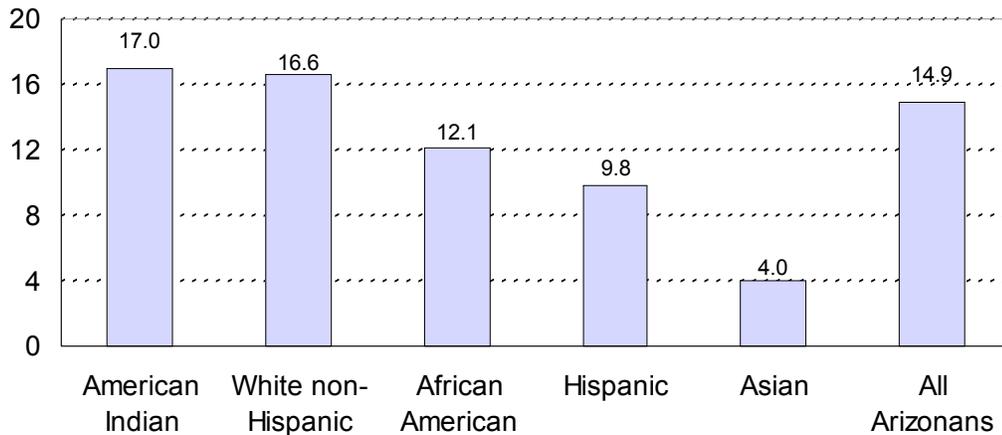
Males over the age of 85 had the highest suicide rate (76.7 per 100,000) and represented 20 deaths. Figure 58 shows the 2004 suicide rates by age group and gender for Arizona residents.

Figure 58. Suicide Death Rates per 100,000 Population, Arizona 2004



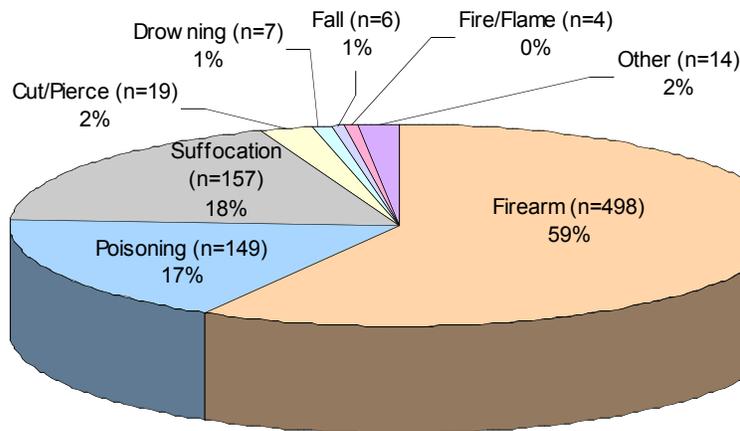
There are substantial racial/ethnic differences in suicide rates in Arizona. Suicide rates were highest among American Indians (17.0 per 100,000) and White non-Hispanics (16.6 per 100,000). Figure 59 below shows the 2004 age-adjusted suicide rates by race/ethnicity in Arizona.

Figure 59. Age-Adjusted Suicide Rates per 100,000 by Race/Ethnicity, Arizona 2004



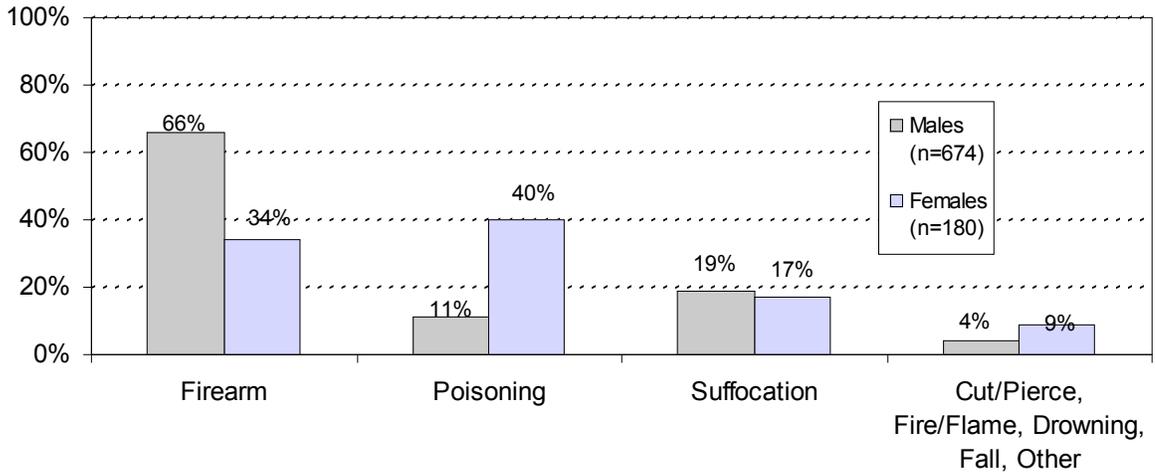
Firearms were the most frequently used mechanism for committing suicide, accounting for 59 percent (n=498) of suicides in 2004. Suffocation, which includes hanging, accounted for 18 percent (n=157) and poisoning accounted for 17 percent (n=149) of suicides. Figure 60 shows suicides by mechanism in Arizona, 2004.

Figure 60. Suicides by Mechanism, Arizona 2004



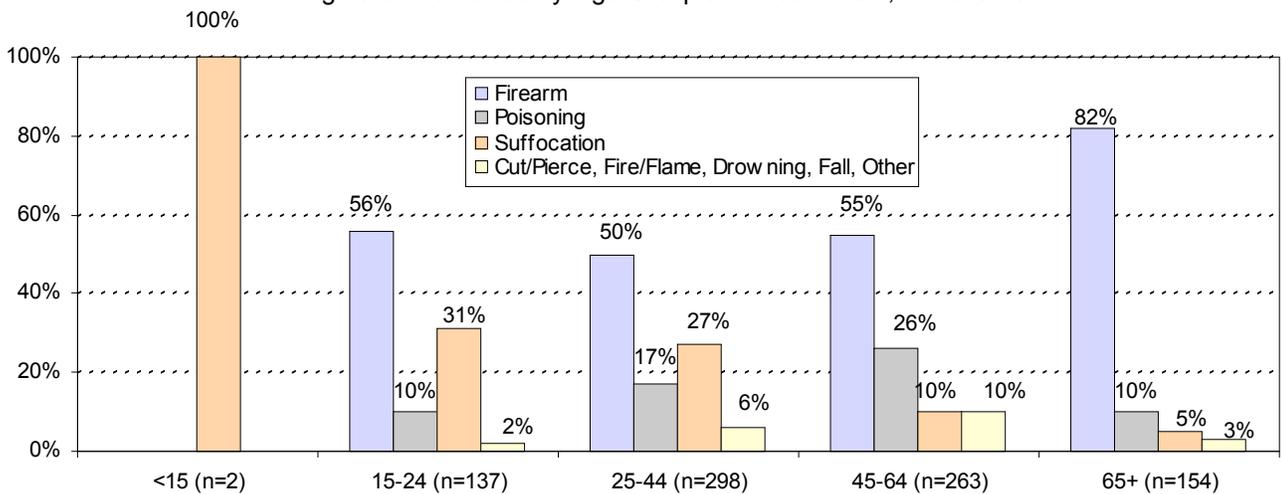
Mechanism of suicide varies by gender. While firearms were the most common mechanism among males, accounting for 66 percent of suicides in this group, poisoning was the most common mechanism for females and accounted for 40 percent of female suicides. Figure 61 below shows suicides occurring during 2004 by gender and mechanism in Arizona.

Figure 61. Suicides by Gender and Mechanism, Arizona 2004



Mechanism of suicide also varies by age group. Only two children under the age of 15 committed suicide; both were by hanging. Hanging, or suffocation, was the second most common mechanism of suicide in the 15–24 year-old age group, accounting for nearly one-third of suicides in this group. Firearms were the most common method overall and accounted for at least half of the suicides for all age groups, except the very youngest, and accounted for 8 out of 10 suicides in those ages 65 and older. Figure 62 below shows suicides by age group and mechanism during 2004 in Arizona.

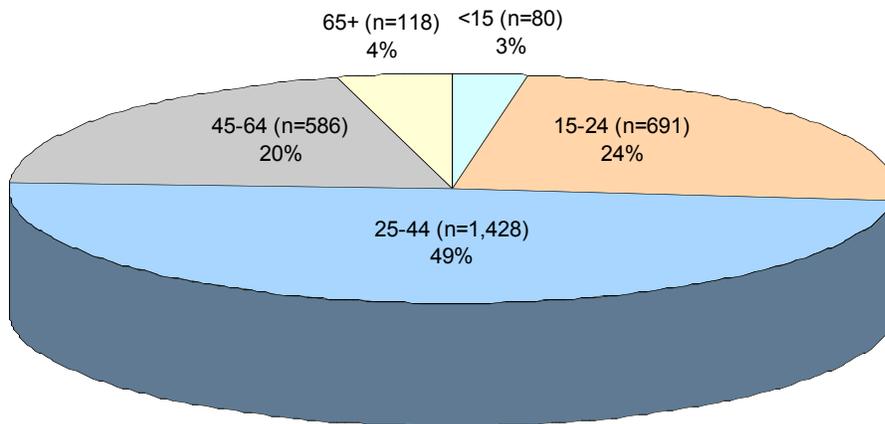
Figure 62. Suicides by Age Group and Mechanism, Arizona 2004



INPATIENT HOSPITALIZATIONS FOR SELF-INFLICTED INJURIES

There were 2,904 inpatient hospitalizations for self-inflicted injuries among Arizona residents in 2004; 40.4 percent were males (n=1,172) and 59.6 percent were females (n=1,732). Of those hospitalized for self-inflicted injuries, 62 died. Adults ages 25-44 accounted for 49 percent (n=1,428) of hospitalizations for self-inflicted injuries. Figure 63 shows the age distribution of Arizona residents who were hospitalized for self-inflicted injuries during 2004.

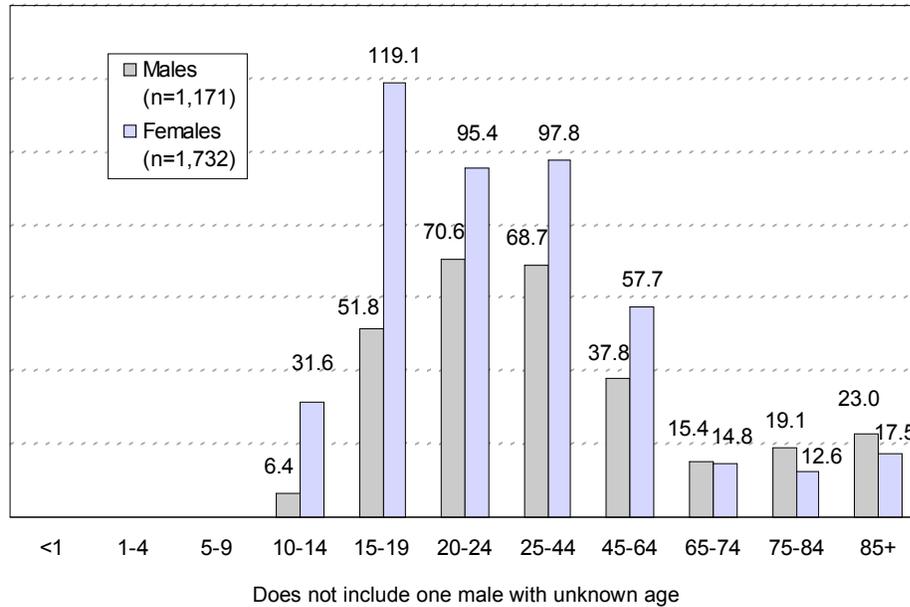
Figure 63. Inpatient Hospitalizations due to Self-Inflicted Injuries by Age Group, Arizona 2004



Does not include one male with unknown age

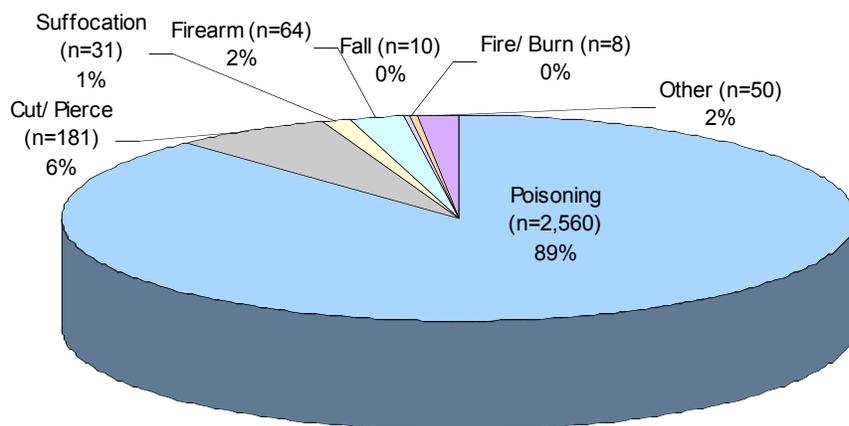
Females 15-19 years of age had the highest hospitalization rates due to self-inflicted injuries (119.1 per 100,000). Males over the age of 85, in contrast to their high rates of suicide death, did not have substantially elevated hospitalization rates for self-inflicted injuries (23.0 per 100,000). Figure 64 shows the 2004 hospitalization rates for self-inflicted injuries by age group and gender for Arizona residents.

Figure 64. Inpatient Hospitalization Rates due to Self-Inflicted Injuries per 100,000 Population, Arizona 2004



Whereas firearms were the most commonly used mechanism in suicides, poisoning was by far the most common mechanism for hospitalizations due to self-inflicted injuries accounting for 89 percent (n=2,560) of these hospitalizations. Figure 65 shows hospitalizations due to self-inflicted injuries by mechanism in Arizona, 2004.

Figure 65. Inpatient Hospitalizations due to Self-Inflicted Injuries by Mechanism, Arizona 2004

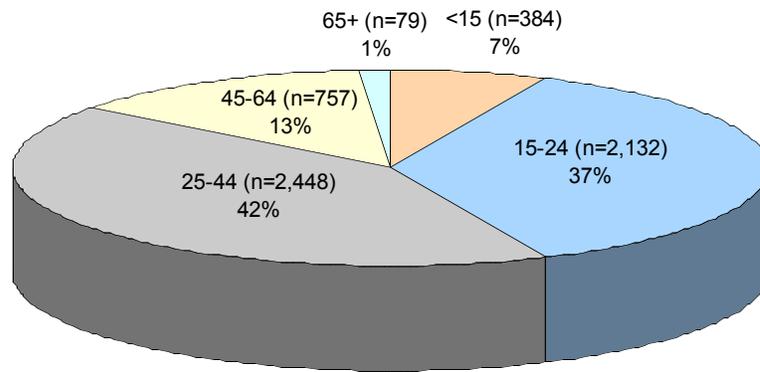


Poisoning was the most common mechanism for hospitalizations due to self-inflicted injuries for both genders, accounting for 78 percent of hospitalizations among males (n=912) and 95 percent (n=1,648) among females.

EMERGENCY DEPARTMENT VISITS FOR SELF-INFLICTED INJURIES

There were 5,801 emergency department visits for self-inflicted injuries among Arizona residents in 2004; 37.3 percent were males (n=2,161) and 62.7 percent were females (n=3,640). Of those who were seen in the emergency department for self-inflicted injuries, 35 died. Adults aged 25-44 accounted for 42 percent (n=2,448) of emergency department visits for self-inflicted injuries. Figure 66 shows the age distribution of Arizona residents who were seen in the emergency department for self-inflicted injuries during 2004.

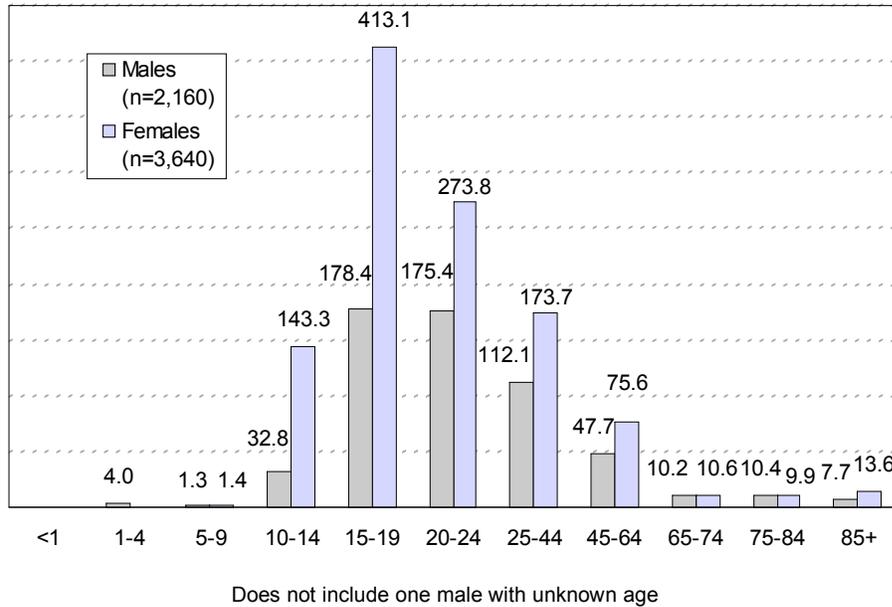
Figure 66. Emergency Department Visits due to Self-Inflicted Injuries by Age Group, Arizona 2004



Does not include one male with unknown age

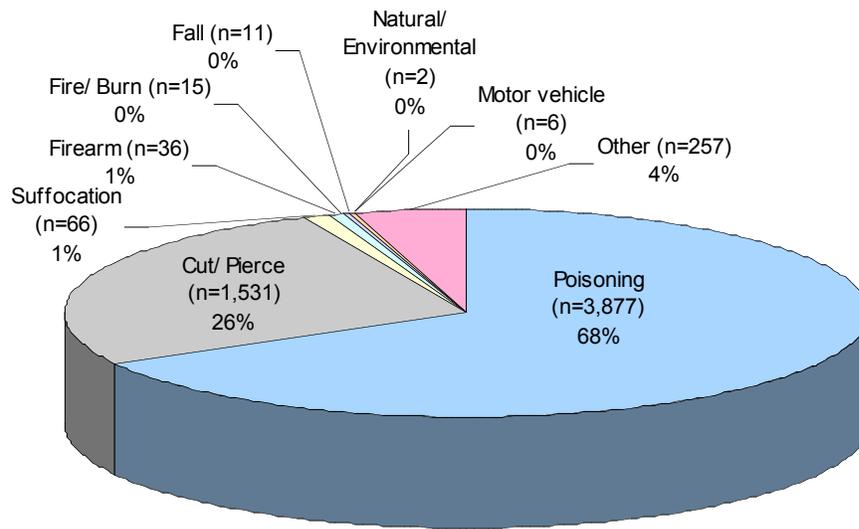
As in hospitalizations, females 15-19 had the highest emergency department visit rate due to self-inflicted injuries (413.1 per 100,000). Figure 67 shows the 2004 emergency department visit rates for self-inflicted injuries by age group and gender for Arizona residents.

Figure 67. Emergency Department Visit Rates due to Self-Inflicted Injuries per 100,000 Population, Arizona 2004



Poisoning was the mechanism in 68 percent (n=3,877) of emergency department visits due to self-inflicted injuries. Cutting and piercing was the mechanism in two percent of suicides but accounted for more than one in four emergency department visits for self-inflicted injuries. Figure 68 shows the emergency department visits due to self-inflicted injuries by mechanism in Arizona, 2004.

Figure 68. Emergency Department Visits due to Self-Inflicted Injuries by Mechanism, Arizona 2004



Poisoning was the most frequently used mechanism for emergency department visits due to self-inflicted injuries for both genders, accounting for 57 percent (n=1,242) of male emergency department visits and 72 percent (n=2,635) of female emergency department visits for self-inflicted injuries. Cutting and piercing accounted for 31 percent (n=675) of male and 24 percent (n=856) of female emergency department visit for self-inflicted injuries. Among female adolescents ages 15-19, 70 percent (n=584) were due to poisoning and 25 percent (n=204) were due to cutting and piercing.

EXISTING SURVEILLANCE SYSTEMS

The primary sources for monitoring suicides and self-inflicted injuries include death certificate, inpatient hospital discharge, and emergency department databases.

SUMMARY/HIGHLIGHTS OF DATA

In Arizona during 2004:

- Suicide was the ninth leading cause of death.
- The most common mechanism for suicides was firearms (59 percent).
- Males over the age of 85 had the highest suicide rates (76.7 per 100,000) and accounted for 2 percent (n=20) of the deaths.
- American Indians (17.0 per 100,000) and White non-Hispanics (16.6 per 100,000) had suicide rates above the state age-adjusted rate of 14.9 per 100,000.
- There were 2,904 hospitalizations and 5,801 emergency department visits due to self-inflicted injuries.
- Poisoning was the most common mechanism of self-inflicted injuries reported for hospitalizations (89 percent) and emergency room visits (68 percent). Only 17 percent of suicides were due to poisoning.
- While men committed suicide in greater numbers (78.9 percent), women were over-represented for inpatient hospitalizations (59.6 percent) and emergency department visits (62.7 percent) for self-inflicted injuries
- Adolescent females ages 15-19 had the highest hospitalization rates (119.1 per 100,000) and emergency department rates (413.1 per 100,000) due to self-inflicted injuries.

LIMITATIONS OF DATA

- Suicides are underreported and may be miscoded.
- Self-inflicted injuries are vastly underreported, as the only available data comes from hospital discharge and emergency department records.
- The ICD-9 codes used for identifying hospitalizations and emergency department visits due to self-inflicted injuries do not provide any level of detail to distinguish between suicide attempts and self-harm.
- There is no standardized reporting system in place to account for self-inflicted injuries among Arizona's tribal populations.

CURRENT INTERVENTIONS

The Arizona Department of Health Services, Division of Behavioral Health Services (DBHS) contracts with Regional Behavioral Health Authorities (RBHAs) and tribes to provide behavioral health services throughout the state. In 2001, DBHS worked with a large group of community stakeholders to develop a comprehensive statewide plan to reduce suicide. This plan, *Arizona's Priorities for Suicide Prevention*, includes strategies for a full continuum of services, including prevention, early intervention, and postvention support for survivors and their families. In 2004, DBHS hired a State Suicide Prevention Coordinator to implement this plan.

In 2004, DBHS began funding primary prevention programs that target groups at high risk for suicide and address risk and protective factors for suicide and substance abuse. Existing programs include: local and regional public information/social marketing campaigns, leadership and life skills programs for Native American youth, gatekeeper education programs targeting at risk youth in schools and communities, physician and caregiver education for older adults with chronic disease, and cross-age mentoring. DBHS provides ongoing technical assistance and training to suicide prevention programs. A series of trainings developed and implemented in 2004-2005 include the following topics: characteristics of high-risk populations, evidence-based practices and strategies, and social marketing methods. In addition, DBHS sponsored two training retreats for the Native American Committee of the Arizona Suicide Prevention Coalition, which focused on Critical Incident Stress Debriefing, spirituality and healing, and community mobilization.

DBHS works in close collaboration with the Arizona Suicide Prevention Coalition, founded in 1999 by a concerned group of individuals and agencies dedicated to suicide prevention, including Phoenix Area Indian Health Services and EMPACT Suicide Prevention Center. The Coalition is currently comprised of nearly 90 participants from over 40 agencies across the state, including RBHAs, tribes, behavioral health providers, crisis providers, survivors, juvenile justice agencies, teen shelters, medical facilities, and organizations serving older adults. The

Coalition has been instrumental in the development of the statewide plan, providing media and community outreach, and promoting policy change. DBHS participates in monthly meetings and subcommittees to work towards shared goals of promoting awareness of and reducing suicide in Arizona.

In conjunction with the Coalition, DBHS conducted a statewide needs and resource assessment in suicide prevention. DBHS also participated in the Youth Committee in evaluating evidence-based practices for youth suicide prevention; aided the Media Committee in developing a brochure, creating and updating a new website, and promoting activities for Suicide Prevention Awareness Week during September 2004; worked with the Policy Committee and the Arizona Medical Association to improve physician training on adolescent care; and facilitated strategic planning for the Executive Committee.

Improving suicide prevention and treatment services in collaboration with other organizations is a fundamental part of the Division's strategic plan. DBHS chairs a workgroup on suicide prevention that includes RBHAs, crisis providers, behavioral health providers, and other community stakeholders. Key activities for 2004-2005 include an extensive literature review of suicide prevention practices, creating a Technical Assistance Document for *Assessing Suicidal Risk* and *Special Suicide Risk Assessment* tool, and the ongoing development of social marketing and public information campaigns.

In addition, DBHS participates in the Behavioral Health and Aging Coalition, sponsored by the Mental Health Association of Arizona, and chairs the Stigma Reduction Project, in collaboration with the Arizona Council of Human Service Providers. Both include a variety of community stakeholders, consumers, and behavioral health professionals.

ACCOMPLISHMENTS

- The Northern Arizona Regional Behavioral Health Authority (NARBHA) developed a suicide prevention campaign for 10 northern region tribes entitled "Embrace Life" and held a conference in 2005.
- Community Partnership of Southern Arizona (CPSA) completed a study based on results from focus groups and interviews with older adults and their caregivers, and is using these findings to inform public information campaigns and educate physicians.
- Gila River Indian Community developed peer leadership programs, school based suicide prevention education, education programs for survivors of suicide, and held a suicide prevention conference in 2005.
- The San Carlos Apache Tribe launched a comprehensive suicide prevention campaign, provided community education forums, trained gatekeeper service providers in suicide awareness and risk assessment, painted billboards, wrote

- newspaper articles, developed public service announcements for local cable and radio outlets, and created a local coalition.
- DBHS selected a team of participants from all regions of the state to represent Arizona at the *Suicide Prevention Resource Center (SPRC) Regional Planning Conference on Suicide Prevention* in Portland, Oregon, in February 2005. DBHS facilitated strategic planning sessions to advance objectives of *Arizona's Priorities for Suicide Prevention*, participated in training, and networked with seven other states.
 - DBHS awarded scholarship funds to the Coalition to allow 6 members to attend the annual American Association of Suicidology Conference in 2005.
 - The Arizona Suicide Prevention Coalition became a 501(c)(3) organization, created a Board, and adopted Bylaws.
 - DBHS reconvened the Native American Committee of the Coalition, which meets monthly and includes representation from 12 tribes.
 - DBHS received one of fourteen awards for State Sponsored Youth Suicide Prevention and Early Intervention (Garrett Lee Smith Memorial Act through SAMHSA), resulting in \$1.2 million funding for youth suicide prevention for the next three years.

2004 Success Statistics:

- The overall suicide rate decreased from 15.9 per 100,000 in 2002 to 14.9 per 100,000 in 2004.¹³ This represents a decrease of 6.3 percent.
- The suicide rate among older adults aged 65 and above was 20.4 per 100,000 in 2004, a 12.1 percent decrease from 2002 (23.2 per 100,000).⁷

¹³ Arizona Health Status and Vital Statistics, 2002-2004

STRATEGIC PLAN FOR 2006-2010

The following objectives are taken from *Arizona's Priorities for Suicide Prevention*, the statewide plan developed by ADHS/DBHS and community stakeholders in 2001. Objective numbers correspond with the plan's original eleven goals.

Injury Name: Suicide/Self-Inflicted Injuries		
Overall Goal: Reduce Suicide and Attempted Suicide in Arizona.		
Objective #1: Promote Awareness that Suicide is a Public Health Problem.		
Strategic Intervention	Action Steps	Key Partners
Continue to develop and implement ongoing public information and awareness campaigns to increase awareness of the problem of suicide in Arizona and services available.	<ul style="list-style-type: none"> Continue to target campaigns to high-risk populations statewide. Utilize existing materials (PSAs, posters, publications) to educate the public on signs and treatment for depression, substance abuse, and risk factors for suicide. Create or develop additional materials such as local or cable TV or radio spots, newspaper articles, press releases, billboards, etc. Publicize local and national resources for help (National Suicide Prevention Lifeline, EMPACT, Teen Lifeline, RBHA Crisis Hotlines, etc.). 	ADHS/Division of Behavioral Health Services T/Regional Behavioral Health Authorities Prevention Providers Suicide Prevention Coalition Crisis Hotlines (Emergency Mobile Pediatric/Adolescent Crisis Team, Teen Lifeline) Media
Sponsor statewide conferences and participate in national conferences on suicide and suicide prevention.	<ul style="list-style-type: none"> Sponsor statewide conferences in October 2006 and October 2007 targeting medical and behavioral health professionals, survivors, first responders, law enforcement, youth, juvenile justice agencies, clergy, and other organizations. Continue to represent the state at national conferences (AAS, SPRC, AFSP, SPAN, etc.) 	ADHS/DBHS Arizona Suicide Prevention Coalition Providers and Statewide Partners
Objective #2: Develop Broad-Based Support for Suicide Prevention.		
Strategic Intervention	Action Steps	Key Partners
Continue to develop and strengthen public and private partnerships and to identify organizations that will help promote policy change to support suicide prevention efforts and to develop funding and other community resources for suicide prevention.	<ul style="list-style-type: none"> Increase Coalition representation from under-represented areas of the state (focus on Pima and Pinal Counties in 2006-2008). Increase community mobilization efforts with juvenile justice, schools, faith-based organizations, first responder agencies, and other groups to enhance collaboration efforts. 	ADHS/ Division of Behavioral Health Services Arizona Suicide Prevention Coalition Public Policy Officials T/Regional Behavioral Health Authorities, providers Arizona Department of Juvenile Corrections

Injury Name: Suicide/Self-Inflicted Injuries		
Overall Goal: Reduce Suicide and Attempted Suicide in Arizona.		
Objective #3: Develop and Implement Strategies to Reduce Stigma Associated with Being a Consumer of Mental Health, Substance Abuse and Suicide Prevention Services.		
Strategic Intervention	Action Steps	Key Partners
Reduce the stigma associated with seeking help for behavioral health disorders.	<ul style="list-style-type: none"> Increase community knowledge and understanding of depression and mental illness as equivalent to physical illness (physician education, gatekeeper training, social marketing efforts, etc). Collaborate with DBHS Stigma Reduction Workgroup and community stakeholders to identify and address stigma in the behavioral health system. 	ADHS/ Division of Behavioral Health Services Arizona Suicide Prevention Coalition T/Regional Behavioral Health Authorities, providers Division of Behavioral Health Services Stigma-Reduction Workgroup
Objective #4: Develop and Implement Suicide Prevention Programs.		
Strategic Intervention	Action Steps	Key Partners
Continue to promote and increase the number of evidence-based suicide prevention programs in schools, colleges and universities, work sites, correctional institutions, aging programs, youth and community service programs, and other organizations.	<ul style="list-style-type: none"> Provide ASIST gatekeeper training to schools, colleges, tribal organizations, first responder, juvenile justice and youth organizations in Pima and Pinal Counties (2005-2008). Expand to other partners and counties as funding becomes available. Implement and promote the use of Colombia University TeenScreen for schools and other youth organizations in Pima and Pinal Counties. Expand to other partners and counties as funding becomes available. Continue to implement suicide prevention programs for identified high risk populations (older adults, GLBT youth, Native American youth, etc.). 	ADHS/ Division of Behavioral Health Services Community Partnership of Southern Arizona (CPSA) Gila River Regional Behavioral Health Authority University of Arizona Cooperative Extension (Casa Grande) Arizona Suicide Prevention Coalition Suicide Prevention Resource Center American Association of Suicidology American Foundation for Suicide Prevention T/ Regional Behavioral Health Authorities
Objective #5: Implement Training for Recognition of At-Risk Behavior and Delivery of Effective Treatment.		
Strategic Intervention	Action Steps	Key Partners
Improve training for recognition of at-risk behavior and promote effective treatment.	<ul style="list-style-type: none"> Implement ASIST training to train key gatekeepers on signs, symptoms, and how to refer for help. Educate and train primary care physicians and caregivers of older adults on signs and symptoms of depression. Continue collaboration with ArMA's 	ADHS/ Division of Behavioral Health Services T/ Regional Behavioral Health Authorities Arizona Medical Association

Injury Name: Suicide/Self-Inflicted Injuries		
Overall Goal: Reduce Suicide and Attempted Suicide in Arizona.		
	Maternal and Child Health Subcommittee to promote effective practices for working with adolescents.	
Implement training for RBHAs and providers on evidence-based practices in crisis assessment and treatment of persons at risk for suicide and their families.	<ul style="list-style-type: none"> Develop and implement training for T/RBHAs and providers on risk assessment guidelines from DBHS's Technical Assistance Document for Assessing Suicidal Risk and implementation of the Special Suicide Risk Assessment tool. 	ADHS/ Division of Behavioral Health Services T/RBHAs Crisis Hotlines (Emergency Mobile Pediatric /Adolescent Crisis Team, Teen Lifeline) Arizona Health Care Cost Containment System
Objective #6: Develop and Promote Effective Clinical and Professional Practices.		
Strategic Intervention	Action Steps	Key Partners
Develop and promote effective clinical practice.	<ul style="list-style-type: none"> Collaborate with primary care physicians and behavioral health professionals to provide screening and assessment tools for depression and suicide. Provide outreach, training, and education on screening tools and local resources for PCPs and behavioral health professionals. 	ADHS/ Division of Behavioral Health Services T/ Regional Behavioral Health Authorities University of Arizona Cooperative Extension Arizona Suicide Prevention Coalition Arizona Medical Association
Objective #7: Improve Access to and Community Linkages with Mental Health and Substance Abuse Services.		
Strategic Intervention	Action Steps	Key Partners
Improve access to services.	<ul style="list-style-type: none"> Provide increased access to services through screenings (TeenScreen, depression screenings, etc.) and appropriate referral. Promote local resources and services available through social marketing efforts. 	ADHS/ Division of Behavioral Health Services Community Partnership of Southern Arizona (CPSA) Gila River Regional Behavioral Health Authority University of Arizona Cooperative Extension (Casa Grande) Arizona Department of Juvenile Corrections T/ Regional Behavioral Health Authorities and providers

Injury Name: Suicide/Self-Inflicted Injuries		
Overall Goal: Reduce Suicide and Attempted Suicide in Arizona.		
Objective #8: Improve Reporting and Portrayals of Suicidal Behavior, Mental Illness and Substance Abuse in the Media		
Strategic Intervention	Action Steps	Key Partners
Improve media portrayals of suicide.	<ul style="list-style-type: none"> Educate local media on the responsible reporting of suicide, utilizing guidelines developed by SPRC, CDC, AFSP, AAS, SAMHSA, and the Annenberg Public Policy Center. 	Arizona Suicide Prevention Coalition Media Committee Media
Improve media portrayals of persons with behavioral health disorders.	<ul style="list-style-type: none"> Identify methods to educate local media on mental illness and substance abuse. 	DBHS Stigma Reduction Workgroup Media Committee NAMI Mental Health Association of Arizona
Objective #9: Promote and Support Research on Suicide and Suicide Prevention		
Strategic Intervention	Action Steps	Key Partners
Ensure that prevention programs are evaluated.	<ul style="list-style-type: none"> Continue to require program logic models and annual evaluation reports from providers. Provide enhanced evaluation training and support to providers. 	ADHS/ Division of Behavioral Health Services T/ Regional Behavioral Health Authorities
Objective #10: Improve and Expand Surveillance Systems.		
Strategic Intervention	Action Steps	Key Partners
Improve data collection of suicide and self-harm.	<ul style="list-style-type: none"> Collect and analyze data from local and national survey instruments with items related to suicide (YRBS, AYS, etc.). Utilizing vital statistics records, continue to collect and analyze statewide data on suicide rates and hospitalizations for suicide attempts and self-harm, with a focus on identified at-risk populations. 	ADHS Arizona Department of Education Arizona Criminal Justice Commission

Baseline: The age-adjusted rate of suicide in Arizona in the year 2000 was 14.6 per 100,000.¹⁴

Target: By 2010, reduce the overall rate of suicide in Arizona to 10.0 per 100,000.¹⁵

Evaluation Method: Utilize vital statistics records for suicide rates and hospital discharge records for suicide attempts and self-harm.

In addition to the above objectives, ADHS recommends the following objective specifically related to firearms, the most common mechanism of suicide.

¹⁴ Arizona Health Status and Vital Statistics, 2000.

¹⁵ Arizona Department of Health Services (2001). *Healthy Arizona 2010: Collaborating for a Healthier Future*. Phoenix, Arizona: Author.

Injury Name: Suicide/Self-Inflicted Injuries		
Objective #11: Reduce Firearm-Related Injuries		
Strategic intervention	Action Steps	Key Partners
1) From existing sources, collect and analyze data on fatal and nonfatal firearm injuries	Create and disseminate reports on firearms	ADHS Community-based organizations Coroners and Medical Examiners
2) Review existing laws relating to access, use and storage of firearms	Compare Arizona statutes with other states and provide information to policy makers Educate the public and policy makers on existing laws Collaborate with law enforcement and judiciary to enforce current laws	ADHS Law enforcement Juvenile Justice Courts
3) Develop data driven interventions to reduce deaths and injuries from firearms	Identify and encourage sharing of resources for prevention Develop recommendations for interventions and produce report	ADHS Community-based organizations
4) Promote and enhance community-based initiatives aimed at reducing intentional and unintentional firearm injuries.	Enhance anti-violence programs using nationally recognized materials Identify and promote strategies proven to reduce firearm injuries Identify and promote strategies proven to reduce illegal possession of firearms	ADHS Community-based organizations Law enforcement Arizona Department of Education Safe Kids and partners
5) Promote community interventions for firearm safety training for children and adults.	Develop and promote firearm safety programs involving many stakeholders in communities Encourage evaluation of firearm safety programs (require for state funded programs).	ADHS Law enforcement Local health departments Arizona Department of Education
6) Promote safe storage of firearms and reduce access to firearms by children.	Review existing policies and laws regarding access to firearms by children Provide information to policy makers Enforce existing laws In collaboration with partners provide education on safe storage of firearms and ammunition and distribute safety locks Destroy confiscated firearms Identify corporate sponsors to help with locks and educational materials Evaluate effectiveness of efforts Compare Arizona statute related to access to firearms by children to those in other states and educate policymakers	ADHS Community-based organizations Law enforcement

HOMICIDE/ASSAULT

BACKGROUND

According to the Centers for Disease Control and Prevention (CDC), homicide is defined as “injuries inflicted by another person with the intent to injure or kill, by any means.” Injuries from similar acts of violence that do not result in death are called assaults. Homicides and assaults may result from a variety of previously discussed mechanisms including firearms, struck by or against an object, cutting or piercing, poisoning, falls (being pushed), and from unarmed fights. Homicide was the third leading cause of death for 15 to 19 year olds and the twelfth leading cause of death for all age groups combined in Arizona during 2004.¹ Arizona ranked sixth in the nation for having the highest homicide death rate in 2003.²

A variety of circumstances surround homicides. According to the United States Department of Justice,² the most frequently cited circumstances surrounding homicides are arguments that include brawls due to the influence of narcotics or alcohol, as well as disagreements about money or property. Homicides are also committed during gang-related activities and felony acts such as rape, robbery, burglary, theft, and arson.

Demographic characteristics differ among homicide victims and offenders. According to national trends,³ older teens, young adults, and African Americans have the highest victimization and offending rates. Males are almost 10 times more likely than females to commit homicides and males are 3.4 times more likely than females to be homicide victims.

However, women are particularly at risk for intimate killings, sex-related homicides, and murder by arson or poison. In Arizona, the percentage of assault-related hospitalizations and emergency department visits among women were lower than for men, which may be impacted by relationship violence. These injuries may be underreported, miscoded (e.g. as falls or other), or not medically treated. In-depth discussions about domestic and sexual violence in Arizona are addressed in the Relationship Violence chapter of this Injury Plan.

According to data collected by the United States Department of Justice, the relationship between the victim and the offender varies for female and male homicide victims.² Figure 69 below shows that female victims were more likely

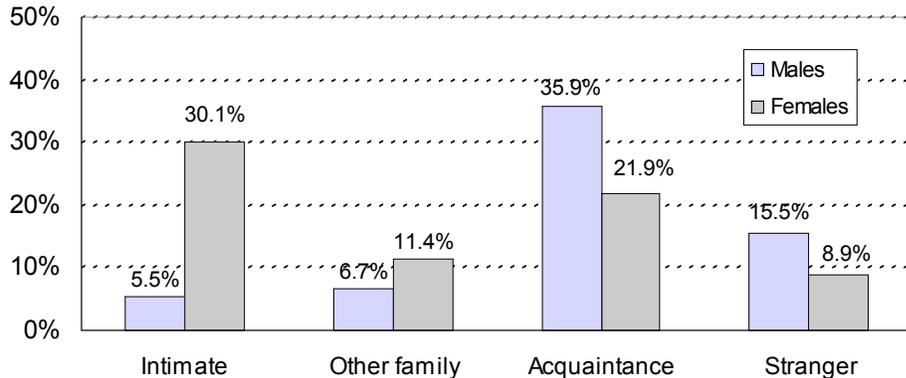
¹ Arizona Health Status and Vital Statistics, 2004.

² Centers for Disease Control and Prevention, National Centers for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2005) {cited 2006 Feb 6}. Available from: www.cdc.gov/ncipc/wisqars.

³ U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, Homicide trends in the U.S. [online]. (2005) {cited 2005 Nov 25}. Available from: www.ojp.usdoj.gov/bjs/homicide/circumst.htm.

than male victims to be killed by an intimate partner (e.g., spouse, ex-spouse, or boyfriend) or family member (e.g., parent, child, or sibling). Male victims were more likely than female victims to be killed by acquaintances (e.g., neighbor, employee/employer, or friend) or strangers.

Figure 69. Percent of Homicide Victims by Gender and Victim/Offender Relationship, United States, 1976-2002²



Youth violence is also a substantial public health problem. In 2002, homicide was the second leading cause of death among young people ages 15-19 in the nation.¹ Research has identified a number of individual and social risk factors for youth violence including history of early aggressive behavior, exposure to violence, low commitment to school, and lower socioeconomic status.⁴ The 2005 Youth Risk Behavior Survey data revealed that among students in Arizona, 20.6 percent of students reported carrying a weapon (e.g., gun, knife, or club) in the last 30 days and 32.4 percent reported being in a physical fight in the last 12 months.

There were 486 homicides in Arizona during 2004. In addition, there were 2,111 inpatient hospitalizations and 15,626 emergency room visits for assault-related injuries.

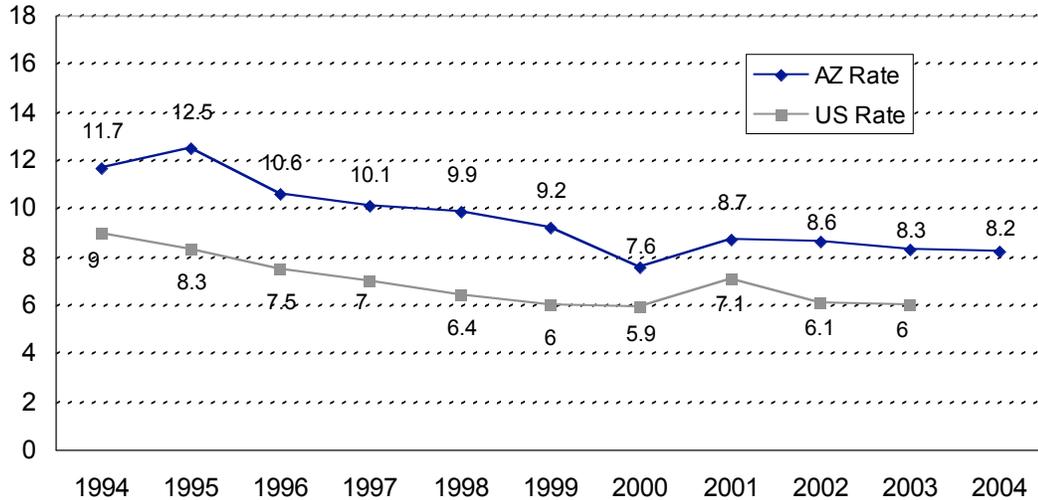
HOMICIDE TRENDS

Since 1994, Arizona's homicide rate has exceeded that of the U.S. Figure 70 shows the age-adjusted homicide rates for the nation and Arizona. The homicide rate in Arizona peaked in 1995 at 12.5 per 100,000 and was 8.2 per 100,000 in

⁴Department of Health and Human Services (US). Youth violence: a report of the Surgeon General [online] 2001 Available from: URL: www.surgeongeneral.gov/library/youthviolence. [Cited 2004 May 24].

2004. In the most recent comparison (2003), the Arizona age-adjusted homicide rate of 8.3 was higher than the national rate of 6.0 per 100,000.⁵

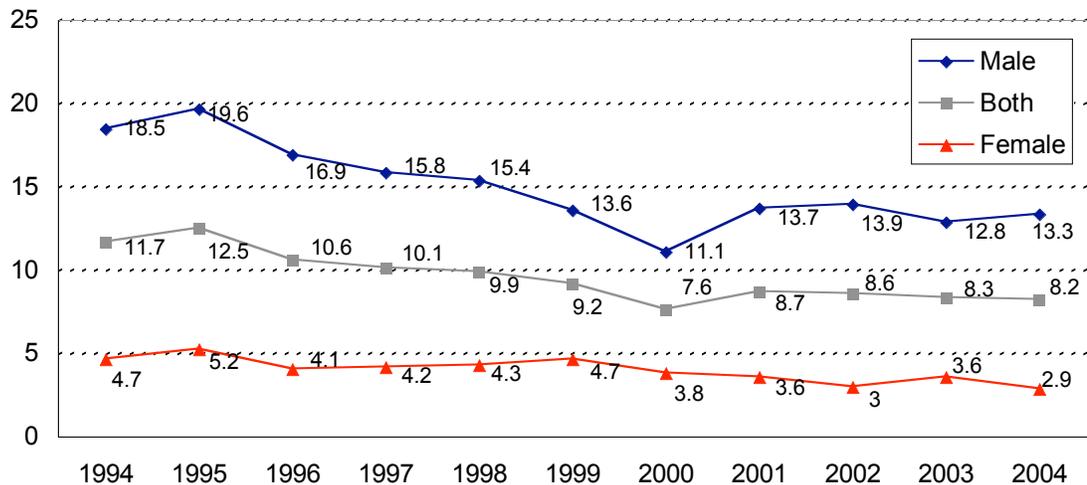
Figure 70. Age-Adjusted Homicide Rates per 100,000, United States and Arizona 1994-2004



Source for Arizona: Arizona Health Status and Vital Statistics 2004
 Source for United States: Centers for Disease Control and Prevention, National Centers for Injury Prevention and Control, Web-based Injury Statistics Query and Reporting System (WISQARS)

In Arizona, males consistently had higher rates of homicide than females. Figure 71 below shows that the homicide rate for males is typically at least three times that of females.

Figure 71. Age-Adjusted Homicide Rates per 100,000 by Gender and Year, Arizona, 1994-2004



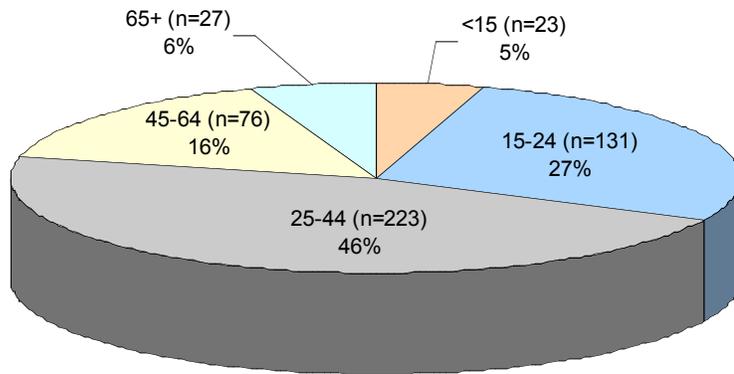
Source: Arizona Health Status and Vital Statistics 2004

⁵ Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [Online]. (2005) {cited 2006 Feb 6}. Available online from: URL: <http://www.cdc.gov/ncipc/wisqars/default.htm>.

HOMICIDES

Among the 486 homicides, 82.9 percent were males (n=403) and 17.1 percent were females (n=83). Adults age 25-44 accounted for almost half (46 percent; n=223) of all homicides. Figure 72 shows the age distribution of Arizona residents who died as homicides during 2004.

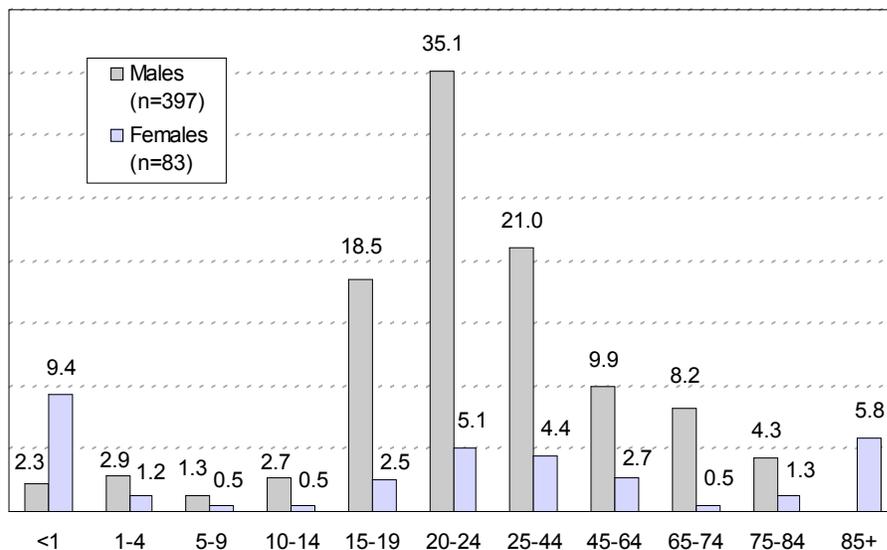
Figure 72. Homicides by Age Group, Arizona 2004



Does not include six males with unknown age

Males age 20-24 had the highest homicide rates (35.1 per 100,000). Figure 73 reveals the 2004 homicide rates by age group and gender in Arizona.

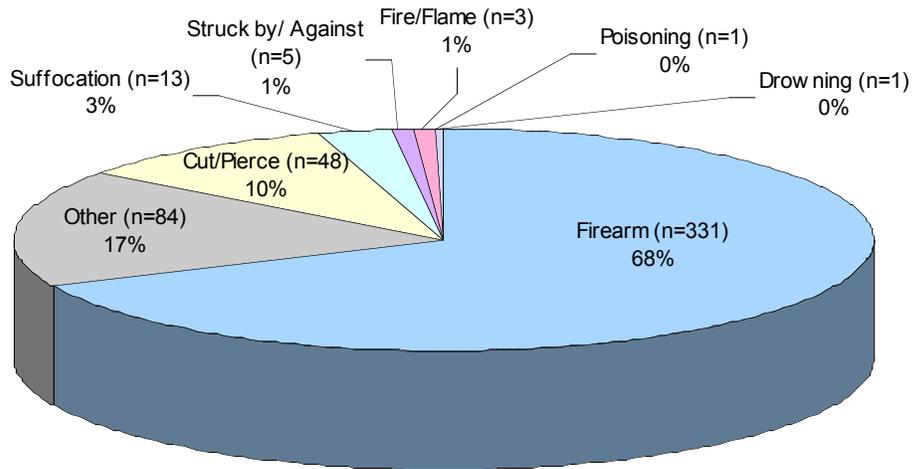
Figure 73. Homicide Rates per 100,000 Population, Arizona 2004



Does not include six males with unknown age

Firearms were the most frequently used mechanism for committing homicide accounting for 68 percent (n=331) of homicides in 2004. Other, which includes other specified or unspecified situations, accounted for 17 percent (n=84) of homicides. Figure 74 shows the 2004 homicides by mechanism in Arizona.

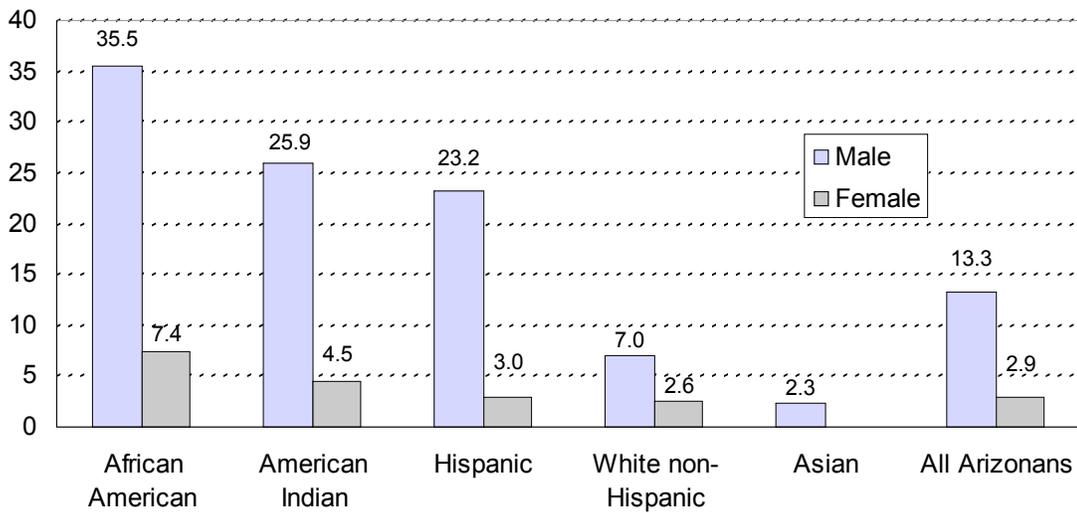
Figure 74. Homicides by Mechanism, Arizona 2004



Firearms were the most common mechanism for committing homicide for both genders, accounting for 72 percent (n=288) of male homicides and 52 percent (n=43) of female homicides.

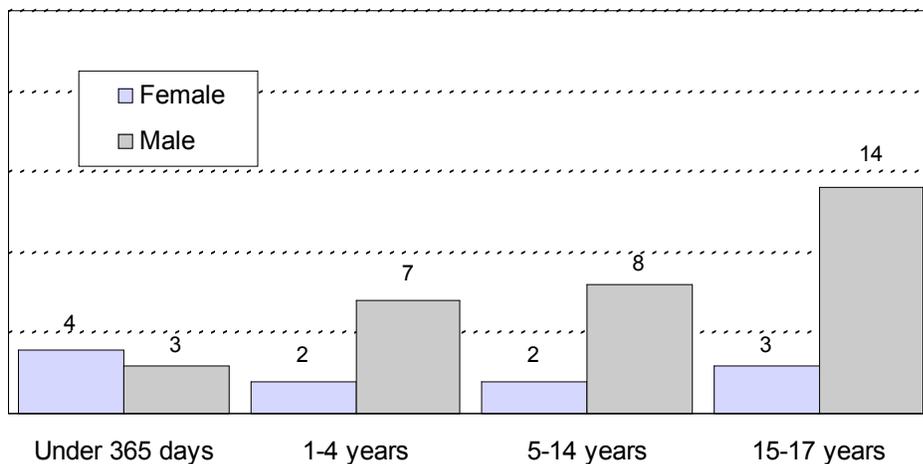
Homicide rates in Arizona also vary by gender and race/ethnicity. African American, American Indian, and Hispanic males have substantially higher age-adjusted homicide rates than other racial/ethnic groups. African American males were five times more likely to be the victim of a homicide than their white counterparts. Figure 75 shows the 2004 age-adjusted homicide rates by gender and race/ethnicity in Arizona.

Figure 75. Age-Adjusted Homicide Rates per 100,000 by Race/Ethnicity and Gender, Arizona 2004



According to 12th Annual Child Fatality Review Report, 43 children were victims of homicide in Arizona in 2004 (Figure 76). Child victims of homicide primarily died as the result of gunshot wounds and blunt force trauma. Additionally, three children died as a result of shaken baby syndrome. Sixteen percent of the children who were victims of homicide were less than one year old, and nearly half (40 percent) were adolescents (ages 15 through 17). Male adolescents age 15 through 17 had the greatest risk of being victims of homicide. More than four times as many adolescent boys (n=14) than adolescent girls (n=3) were murdered. The discussion of child abuse is mentioned more specifically in the chapter on Relationship Violence.

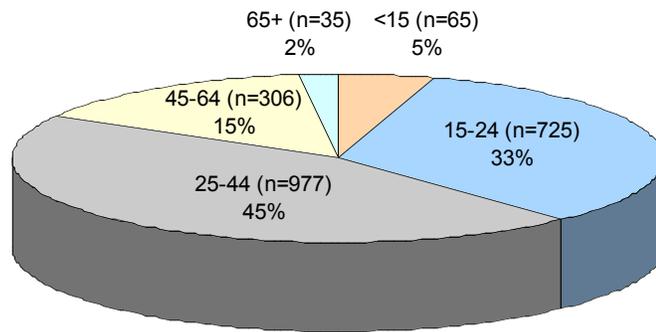
Figure 76. Child Fatality Review, 2004 Homicide Cases by Age Group and Gender



INPATIENT HOSPITALIZATIONS FOR ASSAULT

There were 2,111 inpatient hospitalizations for assault among Arizona residents in 2004; 87.1 percent were males (n=1,839) and 12.9 percent were females (n=272). Among those hospitalized for assault-related injuries, 42 died. Adults 25-44 years of age accounted for almost half (45 percent; n=977) of all hospitalizations due to assault-related injuries. Figure 77 shows the age distribution of Arizona residents who were hospitalized for assault during 2004.

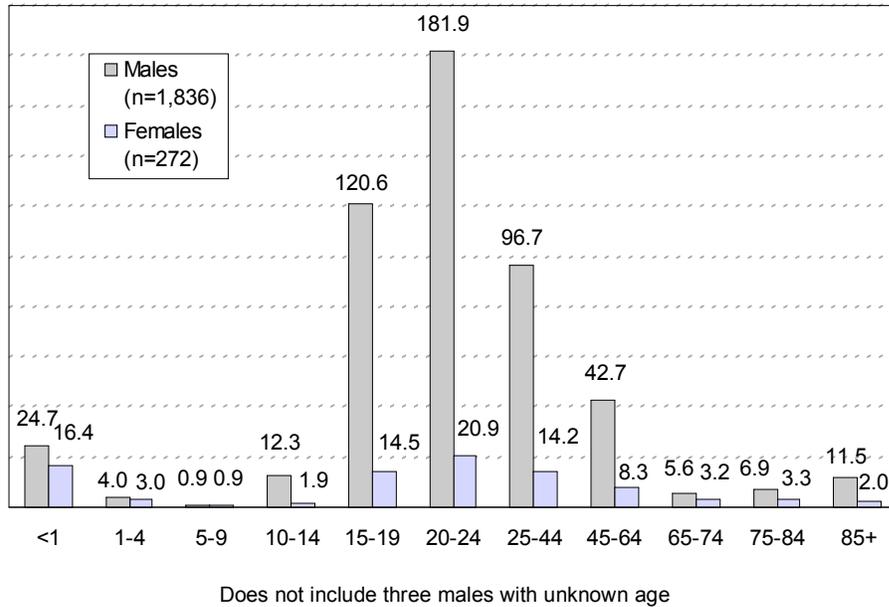
Figure 77. Inpatient Hospitalizations due to Assault-Related Injuries by Age Group, Arizona 2004



Does not include three males with unknown age

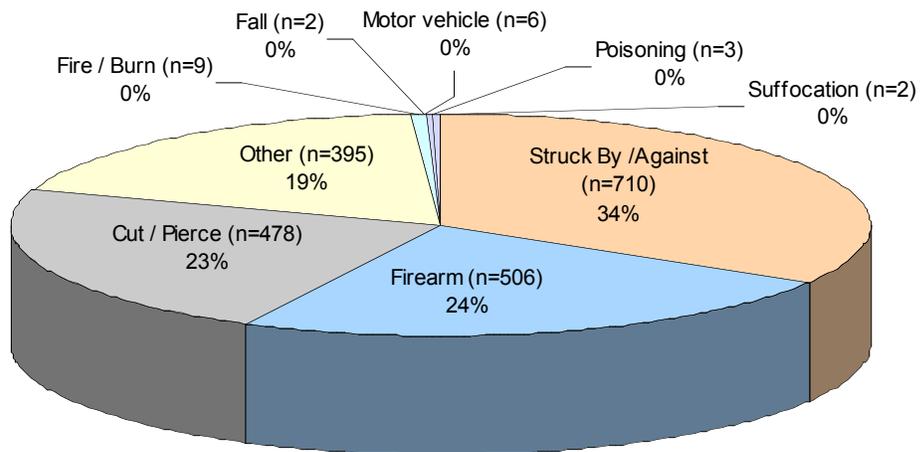
Males 20-24 had the highest hospitalization rates due to assault-related injuries (181.9 per 100,000). Figure 78 shows the 2004 hospitalization rates by age group and gender in Arizona.

Figure 78. Inpatient Hospitalization Rates due to Assault-Related Injuries per 100,000 Population, Arizona 2004



Whereas firearms were the most commonly used mechanism in homicide deaths, being struck by/against, which includes unarmed fights and assault with blunt objects, was the most common mechanism for hospitalizations due to assault-related injuries accounting for 34 percent (n=710) of these hospitalizations. Figure 79 shows the 2004 hospitalizations due to assault by mechanism in Arizona.

Figure 79. Inpatient Hospitalizations due to Assault-Related Injuries by Mechanism, Arizona 2004

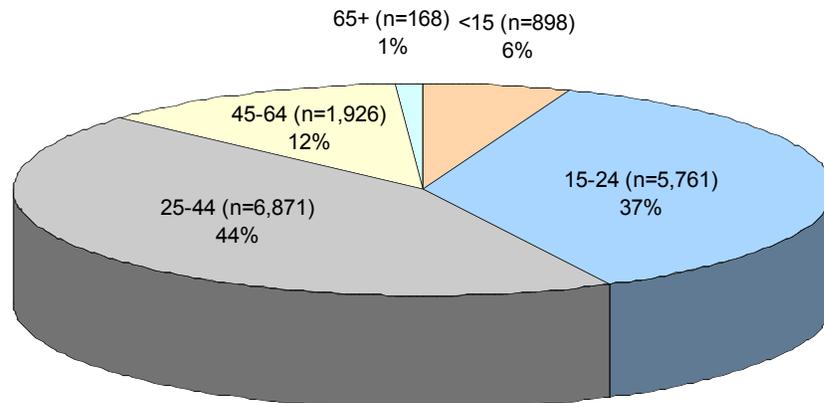


Being struck by/against was the most common mechanism for hospitalizations due to assault-related injuries for both genders, accounting for 33 percent (n=613) of male assault victims and 36 percent (n=97) of female assault victims.

EMERGENCY DEPARTMENT VISITS FOR ASSAULT

There were 15,626 emergency department visits for assault among Arizona residents in 2004; 70.6 percent were males (n=11,029) and 29.4 percent were females (n=4,597). Among those who were seen in the emergency department for assault-related injuries, 52 died. Adults age 25-44 accounted for 44 percent (n=6,871) and 15-24 year olds accounted for 37 percent (n=5,761) of emergency department visits due to assault-related injuries. Figure 80 shows the age distribution of Arizona residents who were seen in the emergency department for assault during 2004.

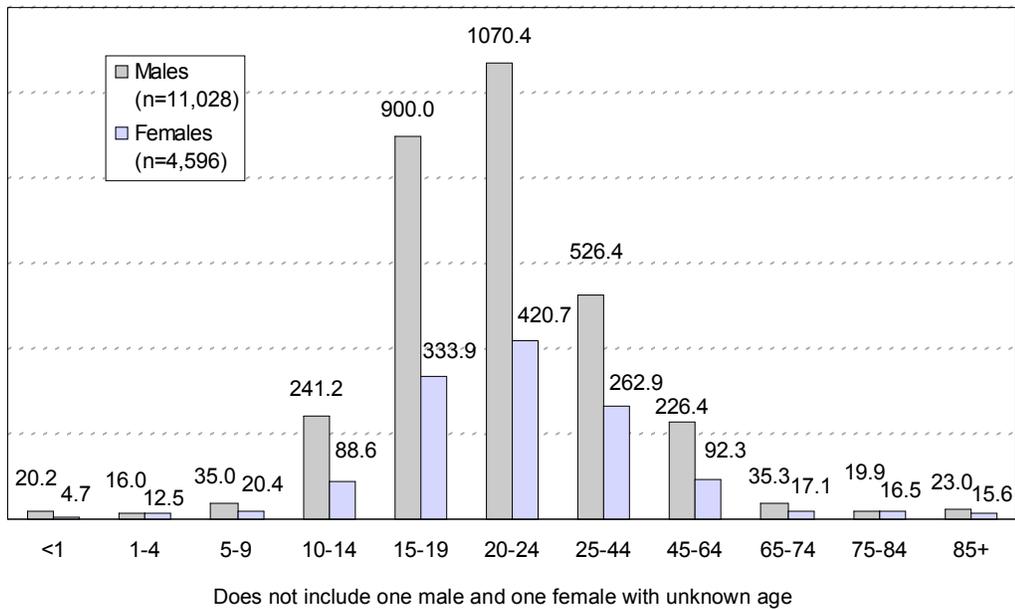
Figure 80. Emergency Department Visits due to Assault-Related Injuries by Age Group, Arizona 2004



Does not include one male and one female with unknown age

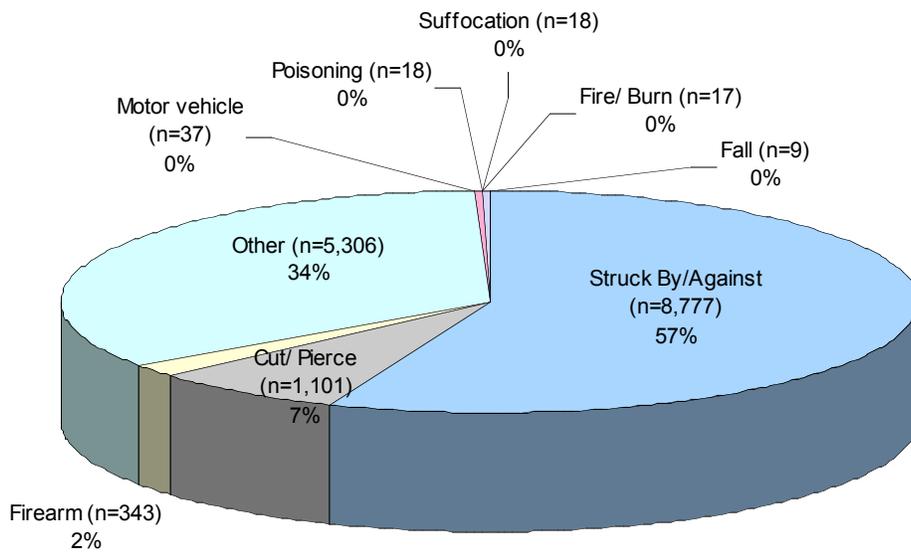
As in deaths and hospitalizations, males age 20-24 had the highest emergency department visit rates due to assault-related injuries (1070.4 per 100,000). Figure 81 shows the 2004 emergency department visit rates by age group and gender in Arizona.

Figure 81. Emergency Department Visit Rates due to Assault-Related Injuries per 100,000 Population, Arizona 2004



Being struck by/against, which includes unarmed fights and assault with blunt objects, was the mechanism in 57 percent (n=8,777) of emergency department visits due to assault-related injuries. "Other" accounted for 34 percent (n=5,306) of assault-related emergency department visits. The "other" category includes rape (1 percent), human bite (8 percent), other specified (32 percent), and unspecified means (54 percent). Figure 82 shows the 2004 emergency department visits due to assault by mechanism in Arizona.

Figure 82. Emergency Department Visits due to Assault-Related Injuries by Mechanism, Arizona 2004



Being struck by/against was the most frequently used mechanism for emergency department visits due to assault-related injuries for both genders, accounting for 58 percent (n=6,350) of male assault victims and 53 percent (n=2,427) of female assault victims.

EXISTING SURVEILLANCE SYSTEMS

Data on homicides in Arizona are collected and reported in several ways. The main sources for homicide data include vital records (death certificates), hospital discharge data, and emergency department data. The Arizona Child Fatality Review Team provides additional data on deaths of children from birth through 17 years of age. National data is maintained by the United States Department of Justice and the Centers for Injury Prevention and Control. Law enforcement agencies may classify homicides differently than definitions used in public health.

SUMMARY/HIGHLIGHTS OF DATA

Since 1994, Arizona's homicide rate has exceeded the national rate, with a peak in 1995 of 12.1 per 100,000 population. In 2004, the age-adjusted homicide rate decreased to 8.2 per 100,000.

In Arizona during 2004:

- Males accounted for the majority of homicides (82.9 percent), hospitalizations (87.1 percent), and emergency department visits (70.6 percent) for assault-related injuries.
- Males 20-24 years of age had the highest rate of homicide, hospitalization and emergency department visit rates due to assault-related injuries.
- Among racial groups, African American males were at greatest risk of homicide (35.5 per 100,000) compared to Asian males (2.3 per 100,000).
- While firearms were the most common mechanism in homicides (68 percent), being struck by/against was the most frequently reported mechanism for hospitalizations (34 percent) and emergency department visits (57 percent) due to assault-related injuries.

CURRENT INTERVENTIONS

- In 2004 the Arizona Department of Public Safety unveiled an initiative known as GITEM (Gang Intelligence Team Enforcement Mission) Task Force to reduce impact of gangs through enforcement and gathering intelligence on gang activities.
- Gang-resistance education in public schools.
- School resource officers are increasing throughout Arizona.
- Never Shake a Baby Arizona is a project of Prevent Child Abuse Arizona. This project provides education to parents prior to hospital discharge following the birth of a baby. The program's goal is to reduce shaken baby syndrome by educating parents about coping with infants' crying.
- Coordinated by the U.S. Attorney's Office, Project Safe Neighborhoods aims to reduce gun crime and to obtain guns from the hands of criminals.

ACCOMPLISHMENTS

- The latest report from the Violence Policy Center ranks Arizona 22nd highest homicide rate of females murdered by males. This is an improvement from a ranking of 8th highest in 2001.
- Although the rate of homicides in Arizona remains higher than the national average, Arizona's homicide rate continues on a downward trend. The 2004 homicide rate was 8.2 per 100,000, compared to a high of 12.5 in 1995.

- In 2005, Arizona passed legislation creating local, voluntary Domestic Violence Fatality Review Teams.
- Seven Arizonan schools were awarded a Safe Schools, Healthy Students Federal Grant. The purpose of this grant is to prevent violence and substance abuse among youth, schools, and communities.

STRATEGIC PLAN FOR 2006-2010

INJURY NAME: HOMICIDE/ASSAULT		
OBJECTIVE #1: IMPROVE DATA CONCERNING HOMICIDES		
STRATEGIC INTERVENTION	ACTION STEPS	KEY PARTNERS
1) Promote collaborative efforts to analyze homicide data	<p>Develop strategies to share data among agencies</p> <p>Analyze homicide data to determine areas at greatest risk</p>	<p>Law enforcement</p> <p>Department of Public Safety</p> <p>ADHS</p> <p>Child Fatality Review Teams</p> <p>Arizona Coalition Against Domestic Violence</p>
OBJECTIVE #2: REDUCE DEATHS DUE TO HOMICIDES		
1) Promote and enhance evidence-based community initiatives aimed at reducing violent behavior	<p>Collaborate with communities identified with highest rates to develop ways to reduce rates</p> <p>Saturate areas with law enforcement</p> <p>Encourage public to report drug activity and/or violent crime</p>	<p>ADHS</p> <p>Law enforcement</p> <p>Local communities</p> <p>Community-based organizations</p>
OBJECTIVE #3: REDUCE FIREARM-RELATED INJURIES		
1) From existing sources, collect and analyze data on fatal and nonfatal firearm injuries	<p>Create and disseminate reports on firearms</p>	<p>ADHS</p> <p>Community-based organizations</p> <p>Coroners and Medical Examiners</p>
2) Review existing laws relating to access, use and storage of firearms	<p>Compare Arizona statutes with other states and provide information to policy makers</p> <p>Educate the public and policy makers on existing laws</p> <p>Collaborate with law enforcement and judiciary to enforce current laws</p>	<p>ADHS</p> <p>Law enforcement</p> <p>Juvenile Justice Courts</p>
3) Develop data driven interventions to reduce deaths and injuries from firearms	<p>Identify and encourage sharing of resources for prevention</p> <p>Develop recommendations for interventions and produce report</p>	<p>ADHS</p> <p>Community-based organizations</p>

STRATEGIC INTERVENTION	ACTION STEPS	KEY PARTNERS
4) Promote and enhance community-based initiatives aimed at reducing intentional and unintentional firearm injuries.	<p>Enhance anti-violence programs using nationally recognized materials</p> <p>Identify and promote strategies proven to reduce firearm injuries</p> <p>Identify and promote strategies proven to reduce illegal possession of firearms</p>	<p>ADHS Community-based organizations Law enforcement Arizona Department of Education Safe Kids and partners</p>
5) Promote community interventions for firearm safety training for children and adults.	<p>Develop and promote firearm safety programs involving many stakeholders in communities</p> <p>Encourage evaluation of firearm safety programs (require for state funded programs).</p>	<p>ADHS Law enforcement Local health departments Arizona Department of Education</p>
6) Promote safe storage of firearms and reduce access to firearms by children.	<p>Review existing policies and laws regarding access to firearms by children</p> <p>Provide information to policy makers</p> <p>Enforce existing laws</p> <p>In collaboration with partners provide education on safe storage of firearms and ammunition and distribute safety locks</p> <p>Destroy confiscated firearms</p> <p>Identify corporate sponsors to help with locks and educational materials</p> <p>Evaluate effectiveness of efforts</p> <p>Compare Arizona statute related to access to firearms by children to those in other states and educate policymakers</p>	<p>ADHS Community-based organizations Law enforcement</p>

RELATIONSHIP VIOLENCE

BACKGROUND

Most violence happens between people who know each other in some context. According to the Bureau of Justice Statistics, spouses, family members, and boyfriends or girlfriends made up approximately 19 percent of all known murder victims in the United States from 1976 to 2002, and other acquaintances made up another 33 percent. Only 14 percent of victims were murdered by a stranger. This is especially true for females, where 42 percent of females were killed by intimates or family members, compared to 12 percent of males. (The relationships between the victim and perpetrator were not determined in 34 percent of homicides.)¹ In eight out of ten rape cases, the victim knows the perpetrator.²

This chapter focuses on violence within the context of relationships, including domestic violence, sexual violence, child abuse, and elder abuse. Information will be presented on prevalence and incidence, as well as factors associated with becoming victims and perpetrators, and the consequences of victimization. Statistical estimates of each of these kinds of violence tend to vary as definitions of them evolve over time and depend upon how data are collected. However, it is generally believed that each kind of violence is underreported through official statistics. Victims often feel shame, embarrassment, and fear, and often do not trust the officials to whom assaults are reported. Victim surveys are often compared to official reporting sources to get a sense of the degree to which underreporting occurs.

Rape is one of the most underreported crimes. According to a United States Department of Justice estimate, only 39 percent of rapes and sexual assaults were reported to law enforcement officials in 2002.³ The Centers for Disease Control and Prevention (CDC) Sexual Violence Fact Sheet⁴ summarizes research from a variety of sources and compiled the following facts related to the prevalence of rape in the United States:

- 17 percent of women and 3 percent of men have experienced either an attempted or completed rape at some time in their lives.

¹ United States Department of Justice, Office of Justice Programs, Bureau of Justice Statistics “Homicide trends in the U.S.” <http://www.ojp.usdoj.gov/bjs/homicide/intimates.htm>, accessed on 11/20/2005.

² Tjaden, Patricia and Nancy Thoennes, United States Department of Justice, Office of Justice Programs, National Institute of Justice, “Full Report of the Prevalence, Incidence, and Consequences of Violence Against Women: Findings From the National Violence Against Women Survey” NCJ 183781 November 2000.

³ Department of Justice. Criminal victimization 2002. Washington: Government Printing Office; 2003. Publication No. NCJ 199994. www.ojp.usdoj.gov/bjs/pub/pdf/cv02.pdf, accessed 11/19/2005.

⁴ CDC National Center for Injury Prevention and Control, “Sexual Violence: Fact Sheet” <http://www.cdc.gov/ncipc/factsheets/svfacts.htm>, accessed on 11/19/2005.

- About 2 out of 1000 children in the United States were confirmed by child protective service agencies as having experienced sexual assault in 2003.
- Among high school youth nationwide:
 - About 9 percent of students reported that they had been forced to have sexual intercourse
 - Female students are more likely than male students to report sexual assault (11.9 percent vs. 6.1 percent)
 - Overall, 12.3 percent of Black students, 10.4 percent of Hispanic students, and 7.3 percent of White students reported that they had been forced to have sexual intercourse
- Among college students nationwide, between 20 percent and 25 percent of women reported experiencing completed or attempted rape.
- Among adults nationwide:
 - More than 300,000 women (0.3 percent) and over 90,000 men (0.1 percent) reported being raped in the previous 12 months.
 - One in six women (17 percent) and one in thirty-three men (3 percent) reported experiencing an attempted or completed rape at some time in their lives.
 - Rape usually occurs more than once. Among adults who report being raped, women experienced 2.9 rapes and men experienced 1.2 rapes in the previous year.

Underreporting is a particular problem for intimate partner violence. The term “intimate partner” generally refers to spouses, cohabitating partners, boyfriends, girlfriends, or dates. According to a United States Department of Justice report on findings from the National Violence Against Women Survey,

Most intimate partner victimizations are not reported to the police. Approximately one-fifth of all rapes, one-quarter of all physical assaults, and one-half of all stalkings perpetrated against female respondents by intimates were reported to the police. Even fewer rapes, physical assaults, and stalkings perpetrated against male respondents by intimates were reported. The majority of victims who did not report their victimization to the police thought the police would not or could not do anything on their behalf. These findings suggest that most victims of intimate partner violence do not consider the justice system an appropriate vehicle for resolving conflicts with intimates.⁵

According to survey data from the National Violence Against Women Survey, women experience more intimate partner violence in their lifetime than do men: 22 percent of women compared to 7 percent of men reported being physically assaulted by an intimate partner during their lifetime. Women are also significantly more likely than men to be injured during an assault, and their risk

⁵ Tjaden, Patricia and Nancy Thoennes, United States Department of Justice, Office of Justice Programs, National Institute of Justice, “Extent, Nature, and Consequences of Intimate Partner Violence: Findings From the National Violence Against Women Survey” NCJ 181867, July 2000, page v.

for injury increases when their assailant is a current or former intimate (32 percent of female rape victims). With 64 percent of women (compared to 16 percent of men) who reported being raped, physically assaulted, and/or stalked since the age of 18 indicating that they were victimized by an intimate partner, violence against women may be seen as primarily intimate partner violence.⁶

The CDC Intimate Partner Violence (IPV) Fact Sheet lists the following facts about intimate partner violence⁷:

- Nearly 5.3 million incidents of IPV occur each year among U.S. women ages 18 and older, and 3.2 million occur among men.
- In the United States every year, about 1.5 million women and more than 800,000 men are raped or physically assaulted by an intimate partner. This translates into about 47 IPV assaults per 1,000 women and 32 assaults per 1,000 men.
- IPV results in nearly 2 million injuries and 1,300 deaths nationwide every year.
- Estimates indicate more than 1 million women and 371,000 men are stalked by intimate partners each year.
- IPV accounted for 20 percent of nonfatal violence against women in 2001 and 3 percent against men.
- From 1976 to 2002, about 11 percent of homicide victims were killed by an intimate partner.
- In 2002, 76 percent of IPV homicide victims were female; 24 percent were male.
- The number of intimate partner homicides decreased 14 percent overall for men and women in the span of about 20 years, with a 67 percent decrease for men (from 1,357 to 388) vs. 25 percent for women (from 1,600 to 1,202).
- One study found that 44 percent of women murdered by their intimate partner had visited an emergency department within 2 years of the homicide. Of these women, 93 percent had at least one injury visit.
- Previous literature suggests that women who have separated from their abusive partners often remain at risk of violence.
- A national study found that 29 percent of women and 22 percent of men had experienced physical, sexual, or psychological IPV during their lifetime.
- Between 4 percent and 8 percent of pregnant women are abused at least once during the pregnancy.

⁶ Tjaden, Patricia and Nancy Thoennes, United States Department of Justice, Office of Justice Programs, National Institute of Justice, "Full Report of the Prevalence, Incidence, and Consequences of Violence Against Women: Findings From the National Violence Against Women Survey" NCJ 183781 November 2000.

⁷ Centers for Disease Control National Center for Injury Prevention and Control "Intimate Partner Violence: Fact Sheet" <http://www.cdc.gov/ncipc/factsheets/ipvfacts.htm>, accessed on 11/19/2005.

The CDC Sexual Violence Fact Sheet lists both vulnerability factors for sexual violence victimization and risk factors for perpetration on several levels: individual, relational, community, and society. Vulnerability factors increase the likelihood that a person will suffer harm, while risk factors for perpetration increase the likelihood that a person will cause it. These factors are quoted at length below, with asterisks marking those factors that are associated with both victims and perpetrators⁸:

VULNERABILITY FACTORS FOR VICTIMIZATION

- **Prior history of sexual violence.** Women who are raped before the age of 18 are twice as likely to be raped as adults, compared to those without a history of sexual abuse.
- **Gender.** Women are more likely to be victims of sexual violence than men: 78 percent of the victims of rape and sexual assault are women and 22 percent are men. These findings may be influenced by the reluctance of men to report sexual violence.
- **Young age.** Sexual violence victimization starts very early in life. More than half of all rapes of women (54 percent) occur before age 18; 22 percent of these rapes occur before age 12. For men, 75 percent of all rapes occur before age 18, and 48 percent occur before age 12. Young women are at higher risk of being raped than older women.
- **Drug or alcohol use.*** Binge drinking and drug use are related to increased rates of victimization.
- **High-risk sexual behavior.** As with drug/alcohol use, researchers are trying to understand the complex relationships between sexuality and sexual violence – their causality, directionality, and other etiologic factors that increase vulnerability for victimization are not well understood. Some researchers believe that engaging in high-risk sexual behavior is both a vulnerability factor and a consequence of childhood sexual abuse. Youth with many sexual partners are at increased risk of experiencing sexual abuse.
- **Poverty.*** Poverty may make the daily lives of women and children more dangerous (e.g., walking alone at night, less parental supervision). It may also make them more dependent on men for survival and therefore less able to control their own sexuality, consent to sex, recognize their own victimization or to seek help when victimized. These issues increase their vulnerability to sexual victimization. In addition, poor women may be at risk for sexual violence because their economic (and, often, educational) status necessitates that they engage in high-risk survival activities, for example trading sex for food, money, or other items. Poverty also puts women at increased risk of intimate partner violence, of which sexual violence is often one aspect.

⁸ Centers for Disease Control National Center for Injury Prevention and Control “Sexual Violence: Fact Sheet” <http://www.cdc.gov/ncipc/factsheets/svfacts.htm>, accessed on 11/19/2005.

- **Ethnicity/culture.** American Indian and Alaskan Native women are more likely (34 percent) to report being raped than African American women (19 percent), White women (18 percent) or Hispanic women (15 percent).

RISK FACTORS FOR PERPETRATION

Individual Factors

- Alcohol and drug use*
- Coercive sexual fantasies
- Impulsive and antisocial tendencies
- Preference for impersonal sex
- Hostility towards women
- Hypermasculinity
- Childhood history of sexual and physical abuse*
- Witnessed family violence as a child

Relationship Factors

- Association with sexually aggressive and delinquent peers
- Family environment characterized by physical violence and few resources
- Strong patriarchal relationship or familial environment
- Emotionally unsupportive familial environment

Community Factors

- Lack of employment opportunities
- Lack of institutional support from police and judicial system
- General tolerance of sexual assault within the community
- Settings that support sexual violence
- Weak community sanctions against sexual violence perpetrators

Societal Factors

- Poverty
- Societal norms that support sexual violence
- Societal norms that support male superiority and sexual entitlement
- Societal norms that maintain women's inferiority and sexual submissiveness
- Weak laws and policies related to gender equity
- High tolerance levels of crime and other forms of violence

Perpetrators of sexual violence are mostly men. According to the CDC Fact Sheet on Sexual Violence⁹, among acts of sexual violence committed against women since the age of 18, 100 percent of rapes, 92 percent of physical assaults, and 97 percent of stalking acts were perpetrated by men. Sexual violence against men is also mainly perpetrated by men, with 70 percent of male rapes, 86 percent of physical assaults, and 65 percent of stalking acts committed by men.¹⁰ Just as victims of sexual violence are at increased risk for future abuse, sexual violence perpetrators are at increased risk of perpetrating another act of sexual violence.

CONSEQUENCES OF SEXUAL VIOLENCE

The CDC Sexual Violence Fact Sheet¹¹ lists harmful consequences of sexual violence to victims, families and communities, in addition to any injuries sustained. Physical consequences include sexually transmitted diseases, pregnancies, and longer-term consequences such as chronic pelvic pain, premenstrual syndrome, gastrointestinal disorders, gynecological and pregnancy complications, migraines and other frequent headaches, back pain, and facial pain.

Psychological consequences include immediate problems such as shock, denial, fear, confusion, anxiety, withdrawal, guilt, nervousness, distrust of others, and symptoms of post-traumatic stress disorder, including emotional detachment, sleep disturbances, flashbacks, and mental replay of the assault. Chronic psychological consequences include depression, attempted or completed suicide, alienation, post-traumatic stress disorder, and unhealthy diet-related behaviors, such as fasting, vomiting, abusing diet pills, and overeating. Social consequences include strained relationships with the victim's family, friends, and intimate partners, less emotional support from friends and family, and less frequent contact with friends and relatives.

Health behavior consequences of rape include engaging in high-risk sexual behavior, including unprotected sex, early sexual initiation, choosing unhealthy sexual partners, having multiple sex partners, and trading sex for food, money, or other items. Rape victims are also more likely to use or abuse harmful substances like smoking cigarettes, drinking alcohol, driving after drinking alcohol, and using drugs.

⁹ Centers for Disease Control National Center for Injury Prevention and Control "Sexual Violence: Fact Sheet" <http://www.cdc.gov/ncipc/factsheets/svfacts.htm>, accessed on 11/19/2005.

¹⁰ Tjaden, Patricia and Nancy Thoennes, United States Department of Justice, Office of Justice Programs, National Institute of Justice, "Full Report of the Prevalence, Incidence, and Consequences of Violence Against Women: Findings From the National Violence Against Women Survey" NCJ 183781 November 2000.

¹¹ Centers for Disease Control National Center for Injury Prevention and Control "Sexual Violence: Fact Sheet" <http://www.cdc.gov/ncipc/factsheets/svfacts.htm>, accessed on 11/19/2005.

In general, victims of repeated violence over time experience more serious consequences than victims of one-time incidents, and children may become injured during incidents of intimate partner violence. The consequences of intimate partner violence include all of the consequences listed above for more general sexual violence. However, the CDC fact sheet on intimate partner violence does list relationship factors that are not included on the fact sheet for sexual violence. Couples with income, educational, or job status disparities, and relationships marked by male dominance and control are more likely to experience intimate partner violence. Traditional gender norms dictating that women should stay at home and not enter the workforce, and that women should be submissive are also listed as risk factors.¹²

CHILD ABUSE

The United States Department of Health and Human Services reports that in 2002, 906,000 children in the United States were maltreated. In 61 percent of the confirmed cases, children experienced neglect, 19 percent were physically abused, 10 percent were sexually abused, and 5 percent were psychologically abused. Among the 1,500 children who died from maltreatment, 28 percent were from physical abuse, 36 percent from neglect, and 29 percent were from multiple maltreatment types.¹³

The numbers cited above reflect only confirmed cases of maltreatment. The real number of children experiencing abuse and neglect is likely to be much higher. Some forms of child abuse, like shaken-baby syndrome, are difficult to detect, but have devastating consequences.

Shaken-baby syndrome (SBS) is a collection of signs and symptoms resulting from the violent shaking of an infant or small child. It is a form of child abuse. In American last year, approximately 1,200-1,400 children were shaken for whom treatment was sought. Of these tiny victims, 25-30 percent died as a result of their injuries. The rest will have lifelong complications. It is likely that many more babies suffered from the effects of SBS and no one knows, because SBS victims rarely have any external evidence of trauma.¹⁴

Children younger than four years old, and especially infants, are at the greatest risk of severe injury or death due to child maltreatment. Children younger than

¹² Centers for Disease Control National Center for Injury Prevention and Control “Intimate Partner Violence: Fact Sheet” <http://www.cdc.gov/ncipc/factsheets/ipvfacts.htm>, accessed on 11/19/2005.

¹³ Department of Health and Human Services, Administration on Children, Youth, and Families. Child maltreatment 2003 (online). Washington DC: government Printing Office; 2005. www.acf.hhs.gov/programs/cb/publications/cm03/cm2003.pdf, accessed 11/25/05.

¹⁴ National Center for Shaken Baby Syndrome website, <http://www.dontshake.com>, accessed 11/25/05.

four accounted for 79 percent of child fatalities in the United States during 2003, with infants under one year old accounting for 44 percent of deaths.¹⁵

The CDC Child Maltreatment Fact Sheet¹⁶ lists the following consequences of child maltreatment:

- Children who experience maltreatment are at increased risk for adverse health effects and behaviors as adults – including smoking, alcoholism, drug abuse, eating disorders, severe obesity, depression, suicide, sexual promiscuity, and certain chronic diseases.
- Maltreatment during infancy or early childhood can cause important regions of the brain to form improperly, leading to physical, mental, and emotional problems such as sleep disturbances, panic disorder, and attention-deficit/hyperactivity disorder.
- About 25 percent to 30 percent of infant victims with SBS die from their injuries. Nonfatal consequences of SBS include varying degrees of visual impairment (e.g., blindness), motor impairment (e.g., cerebral palsy) and cognitive impairments.
- Victims of child maltreatment who were physically assaulted by caregivers are twice as likely to be physically assaulted as adults.
- As many as one-third of parents who experienced maltreatment in childhood may victimize their own children.
- Direct costs (judicial, law enforcement, and health system responses to child maltreatment) are estimated at \$24 billion each year. The indirect costs (long-term economic consequences of child maltreatment) exceed an estimated \$69 billion annually.

Certain factors have been found to be associated with either increased or decreased levels of child maltreatment. A CDC listing of these risk and protective factors at the individual, relational, community and societal level follow¹⁷:

EXAMPLES OF RISK FACTORS:

- Disabilities or mental retardation in children that may increase caregiver burden

¹⁵ Department of Health and Human Services, Administration on Children, Youth, and Families. Child maltreatment 2003 (online). Washington DC: government Printing Office; 2005. www.acf.hhs.gov/programs/cb/publications/cm03/cm2003.pdf, accessed 11/25/05.

¹⁶ Centers for Disease Control National Center for Injury Prevention and Control “Child Maltreatment: Fact Sheet” <http://www.cdc.gov/ncipc/factsheets/cmfacts.htm>, accessed on 11/19/2005.

¹⁷ Centers for Disease Control National Center for Injury Prevention and Control “Child Maltreatment: Fact Sheet” <http://www.cdc.gov/ncipc/factsheets/cmfacts.htm>, accessed on 11/19/2005.

- Social isolation of families
- Parents' lack of understanding of children's needs and child development
- Parents' history of domestic abuse
- Poverty and other socioeconomic disadvantage, such as unemployment
- Family disorganization, dissolution, and violence, including intimate partner violence
- Lack of family cohesion
- Substance abuse in family
- Young, single, nonbiological parents
- Poor parent-child relationships and negative interactions
- Parental thoughts and emotions supporting maltreatment behaviors
- Parental stress and distress, including depression or other mental health conditions
- Community violence

EXAMPLES OF PROTECTIVE FACTORS:

- Supportive family environment
- Nurturing parenting skills
- Stable family relationships
- Household rules and monitoring of the child
- Parental employment
- Adequate housing
- Access to health care and social services
- Caring adults outside family who can serve as role models or mentors
- Communities that support parents and take responsibility for preventing abuse

DOMESTIC VIOLENCE IN ARIZONA

There were 58,879 police reports generated in 2004 for violations of Arizona's domestic violence statute (ARS 13-3601, 13-3602), according to Arizona's Uniform Law Enforcement Domestic Violence Statistical Report for 2004¹⁸. An arrest was made at the scene in 31.4 percent of these cases (n=18,468). When arrests were made, 72.7 percent of cases involved arrests of males only, 21.7 percent involved females only, and 5.6 percent involved dual arrests in which both males and females were arrested. In 45.6 percent (n=8,423) of cases involving arrests at the scene, police reports were submitted to prosecutorial agencies requesting criminal complaints. Weapons were seized in 516 of the reported cases. Alcohol usage was reported in 11.3 percent (n=6,661) of police

¹⁸ 82 out of 104 and eight tribal agencies reported some or all of the data requested from the Governor's Division for Women for the Annual Uniform Law Enforcement Domestic Violence Statistical Report

reports, and drugs other than alcohol were reported in 3.5 percent (n=2,047). Minors were present at the scene in one of five cases (n=11,496).

An important aspect of helping women to avoid domestic violence is the provision of a safe place to go to escape danger in the home. The Arizona Department of Economic Security (DES) collects data from domestic violence shelters. During the period of July 1, 2003 through June 30, 2004, DES reported that 25,383 women and children requested shelter, but only 39 percent (n=9,857) received it. Shelter was unavailable to the remaining 15,526 women and children at the time of request.

SEXUAL VIOLENCE IN ARIZONA

According to the FBI Uniform Crime Reports, during 2004, 1,896 forcible rapes were reported in Arizona, representing 33 reported rapes per 100,000 people in Arizona.¹⁹ This rate was comparable to the national rate of 32.2 rapes per 100,000 people in the United States).

Survey data specific to Arizona are not yet available to produce a measure of the prevalence of Arizona women and men who have been raped. However, the National Women's Study and the National Violence Against Women Survey provided estimates of women's likelihood of being forcibly raped by age, race/ethnicity, and the region of the nation in which she lives. Researchers developed a method for applying this information to a breakdown of the Arizona population of women on these same risk factors using Census data to estimate the prevalence of women in Arizona who have been raped. The authors estimated that 19.1 percent, or approximately one in five women in Arizona had been a victim of at least one forcible rape during her lifetime. They note that this rate is higher than the national average of 13.4 percent, and state their belief that this is likely an underestimate.

According to the 2000 Census, there are about 1.9 million women age 18 or older living Arizona. This means that the estimated number of adult women in Arizona who have ever been raped is about 363,000. This estimate of the magnitude of Arizona's rape problem is conservative because it does not include women who have never been forcibly raped but who have experienced attempted rapes, alcohol or drug facilitated rapes, incapacitation rapes, or statutory rapes (i.e., rapes in which no force or threat of force was used by the perpetrator had sex with an underage child or young adolescent). Nor does this estimate include any types of rape that have been experienced by female residents of Arizona who are currently under the age of 18. Nor does the estimate include

¹⁹ Federal Bureau of Investigation, Uniform Crime Reports. <http://www.fbi.gov/ucr/ucr.htm>, accessed on 11/25/2005.

male rape victims of any age. This estimate also does not address possible changes in rape prevalence or in disclosures of rape cases to interviewers that may have occurred over time.²⁰

The authors explain that part of the difference between the national and Arizona-specific estimate has to do with Arizona being in a region of the nation that has a higher-than-average rape prevalence. They go on to caution that this estimate is not meant to be a substitute for conducting a well-designed victimization survey within the state, but that to the degree that Arizona women are similar to women in the rest of the nation, one would expect that many of the rapes experienced by Arizona women probably happened during their childhoods or adolescence.

The 2005 Arizona Youth Risk Behavior Survey asks high school teens whether they had ever been hit, slapped or physically hurt by their boyfriend or girlfriend on purpose during the past 12 months, and whether they had ever been forced to have sexual intercourse. In the 12 months preceding the survey, 10.5 percent of students said that they had been hit, slapped, or physically hurt by a boyfriend or girlfriend. Eleven percent of students reported ever being physically forced to have sexual intercourse when they did not want to. Females (14.2 percent) were twice as likely than males (7.7 percent) to report being forced to have sexual intercourse against their will.

CHILD ABUSE IN ARIZONA

Child Protective Services produces semi-annual reports based on two time periods, from October through March and April through September.²¹ From April 2004 through March 2005, Child Protective Services received 38,004 reports of child abuse, neglect, and abandonment. During this period 3,430 investigations resulted in substantiated findings (note: there are 359 reports proposed for substantiation, awaiting appeal at the time of this writing). Six percent of the calls were for sexual abuse (n=2,290), 33 percent were reports of physical abuse (n=12,532), and 2 percent were for emotional abuse (n=628). The remaining 59 percent of hotline calls were for neglect (n=22,554). Based on the type of maltreatment described in the report, a risk level is assigned to the reports of alleged abuse. From April 2004 through March 2005, 6,709 of the reports received were classified as high-risk reports, 10,259 of the reports were moderate-risk reports, 15,462 of the reports were classified as low-risk reports, and 5,574 of the reports were potential-risk reports.

²⁰ Ruggiero, Kenneth J. and Dean G. Kilpatrick "Rape in Arizona: A Report to the State" Charleston, SC: National Violence Against Women Prevention Research Center, Medical University of South Carolina, May 15, 2003 page 2.

²¹ Arizona Department of Economic Security. Division of Children, Youth and Families-Child Protective Services. <http://www.azdes.gov/dcyf/cmdps/cps/report.asp>, accessed on 11/25/2005.

Arizona's Child Fatality Review Program reviews childhood deaths of all causes that occur in Arizona. Beginning in 2002, local review teams were asked if the death was the result of maltreatment, including abuse and neglect. In 2004, there were 40 deaths that were due to maltreatment, compared to 37 in 2003, and 36 in 2002. Children under the age of five years are at the greatest risk of dying as the result of maltreatment. Among the 40 deaths determined by child fatality teams to be due to maltreatment in 2004, three in four (n=30) maltreatment deaths were children under the age of five (n=30). Half were infants (n=20).

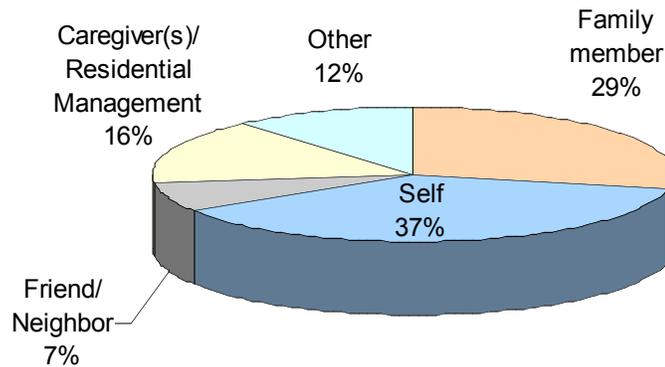
The number of child maltreatment deaths reported by the Child Fatality Review Program is not comparable to child maltreatment deaths reported by the Arizona Department of Economic Security for the National Child Abuse and Neglect Data System (NCANDS). The Department of Economic Security only reports on child fatalities that have been investigated by Child Protective Services and a substantiated finding has been entered that the death was the result of abuse or neglect. Not all fatalities due to maltreatment are investigated by Child Protective Services.

ADULT ABUSE

Adult Protective Services (APS) investigates incidents of abuse, neglect, or exploitation of incapacitated or vulnerable adults who are residents of Arizona. From July 2004 through June 2005, APS received 8,699 reports of abuse (n=1,510), neglect (n=5,363), and exploitation (n=1,485).²² Approximately 18 percent of the abuse reports were substantiated, while higher percentages of neglect (43 percent) and exploitation (28 percent) were substantiated. Sixty-one percent of APS clients were female, and 39 percent were males. The most common perpetrator of adult abuse was self (37 percent), followed by family members (29 percent), caregivers or residential management (16 percent), and friends/neighbors (7 percent). See Figure 83 below.

²² Department of Economic Security, Aging and Adult Administration, Adult Protective Services, Activities Summary State Fiscal Year 2005.

Figure 83. Perpetrator of Adult Abuse in Arizona, 2004



The most common reporting source to APS in 2004 were social services (30 percent) followed by other public services (18 percent) and family members (18 percent), friends and neighbors (9 percent), medical services (7 percent) and self (7 percent). Eleven percent of reports came from some other source. In most cases, the client lived alone with little or no assistance (53 percent). Eighteen percent lived with family, and 13 percent lived with non-family. Eight percent lived in either licensed or unlicensed care facilities, and another 8 percent lived alone with some assistance.

EXISTING SURVEILLANCE SYSTEMS

There is very little complete data available in the area of violence due to under reporting and inaccurate and incomplete documentation.

The Governor's Office for Children, Youth, and Families collects data on law enforcement's response to domestic violence through the Uniform Law Enforcement Domestic Violence Statistical Report. While voluntary, 82 out of 104 agencies and 8 tribal agencies provided some or all of the data requested.

Data regarding rapes is compiled by the U.S. Department of Justice Federal Bureau of Investigation's Uniform Crime Report. The U.S. Department of Justice is replacing its Uniform Crime Reporting system with a more comprehensive National Incident-Based Reporting System (NIBRS). The NIBRS will collect a wide range of information on victims, offenders, and circumstances for a greater variety of offenses.

In 2005, the Arizona Department of Health Services implemented new survey questions about intimate partner violence and sexual violence as part of the annual Behavior Risk Factor Survey. Data from these questions will be available in 2006.

The Department of Economic Security collects reports of child abuse and adult abuse.

A future potential source of information may be from domestic violence fatality review processes. Legislation was passed in 2005 allowing local jurisdictions to conduct fatality reviews on domestic violence related deaths.

SUMMARY/HIGHLIGHTS OF DATA

- Official statistics underestimate the incidence of violence that occur within relationships.
- Only 39 percent of rapes were reported to law enforcement officials in 2002.
- 22 percent of women and 7 percent of men report having been physically assaulted by an intimate partner during their lifetime.
- In eight out of ten rape cases, the victim knows the perpetrator.
- More than half of all rapes occur before the age of 18.
- 14.2 percent of Arizona high school females and 7.7 percent of high school males reported having been forced to have sexual intercourse when they did not want to.
- About 2 out of 1000 children in the United States were confirmed to have experienced sexual assaults.
- Children younger than four years old, and especially infants are at greatest risk of severe injury or death due to child maltreatment.
- From April 2004 through March 2005, 38,004 reports of child abuse and neglect were made to CPS in Arizona, including 2,290 reports of sexual abuse and 12,532 reports of physical abuse.
- In 2004, there were 58,879 police reports of domestic violence in Arizona, and 18,468 arrests.
- Minors were present in one of five domestic violence cases.
- Between July 1, 2003 and June 30, 2004, only 39 percent of the 25,383 women and children requesting shelter in Arizona received it at the time of the request.
- Family members comprised approximately a quarter of perpetrators of adult protective services reports in Arizona.

CURRENT INTERVENTIONS

Many organizations throughout Arizona provide various interventions in the prevention of relationship violence, and this chapter cannot describe them all. The following activities provide a snapshot of what is occurring in Arizona in the primary prevention of relationship violence.

The Governor's Commission to Prevent Violence Against Women is working to implement recommendations from the State Plan on Domestic and Sexual

Violence. The Governor's Division for Women leads the State Agency Coordination Team (SACT), a team of the state agencies that collaborate to address domestic and sexual violence. Several state agencies, including Department of Public Safety, Department of Economic Security, Department of Health Services, Governor's Division for Women, and the Arizona Criminal Justice Commission, provide funding to community organizations for a variety of services that meet the needs of victims throughout Arizona.

The Arizona Coalition Against Domestic Violence provides statewide systems advocacy, training, a legal advocacy hotline, public awareness activities, and resources. Arizona Sexual Assault Network facilitates a collaborative statewide network for disciplines and communities who are working to identify and address sexual violence issues in Arizona. The Men's Anti-Violence Network, an initiative of Arizona Foundation for Women, focuses on influencing public policy, increasing public awareness and supporting prevention programs for children. Members lobby at the state legislature, speak before community groups, work with the media, develop public awareness campaigns, and work with the schools on prevention programs.

Prevent Child Abuse Arizona provides training, advocacy, program development, and public awareness to both public and private agencies, policy makers and funders. Prevent Child Abuse Arizona coordinates an annual Statewide Child Abuse Prevention Conference, of over 1000 participants featuring national experts, model programs, and state-of-the-art solutions to prevent child maltreatment. Never Shake a Baby Arizona is a project of Prevention Child Abuse funded by the Arizona Child Abuse Prevention License Plate / Arizona Republic. The project is designed to reduce the incidence of shaken baby syndrome through educating all new parents.

The Arizona Department of Health Services administers the federal Rape Prevention and Education Program grant, which provides funding to non-profit community-based organizations across Arizona to implement primary prevention activities.

The Area Agency on Aging, Region One, Inc., leads the Maricopa Elder Abuse Prevention Alliance, now composed of over 100 professionals in the health care, legal, law enforcement and social service fields. The focus of the alliance is prevention and public awareness of elder abuse and related issues such as late-life domestic violence, emergency housing for victims, financial exploitation, and guardianship.

The Area Agency's Ombudsman Program is a resource for long-term care facility residents and their families. Ombudsmen advocate for the best interest of the resident by assisting in the resolution of complaints about the quality of the facility, financing, eligibility, availability, and access to care.

The Arizona Department of Education provides federal funds to schools for violence and substance use prevention programs under the Safe and Drug Free Schools Program. Schools use research-based programs or strategies.

ACCOMPLISHMENTS

The following accomplishments are offered as examples of accomplishments but not meant to be an all inclusive list of accomplishments in Arizona.

The Governor's Commission to Prevention Violence Against Women produced the *State Plan on Domestic and Sexual Violence: A Guide for Safety and Justice in Arizona*.

A statewide public awareness media campaign was launched by ADHS in 2004 targeting prevention of date rape.

The Arizona Coalition Against Domestic Violence provided a teen dating violence public awareness campaign in English and Spanish. The "Kiss Off Teen Dating Campaign" was featured on radio and at community events.

The Attorney General's Office brought the national Cut It Out initiative to Arizona. The program works with ACADV and the Board of Cosmetology to educate the cosmetology industry about domestic violence and how to provide resources or be involved in the issue.

Prevent Child Abuse Arizona implemented Never Shake a Baby Arizona pilot projects providing hospital-based education to reduce shaken baby syndrome by educating parents about coping with infants crying.

The Area Agency on Aging, Region One, opened its DOVES transitional housing program for victims of abuse ages 50 and older. It is the only one of its kind in the nation.

The state spousal rape law was repealed in 2005, so now the rape of a spouse carries the same penalty as the rape of stranger or acquaintance.

Domestic violence fatality review legislation was passed in 2005 allowing local jurisdictions to conduct reviews of domestic violence related fatalities.

The Prevention System Subcommittee of Governor Janet Napolitano's Action Plan for Reform of Child Protection System issued a report recommending the development of a statewide prevention continuum of services known to reduce risk factors for child abuse and neglect while increasing family and community strengths and protective factors.

STRATEGIC PLAN FOR 2006-2010

This plan builds upon the State Plan on Domestic and Sexual Violence: Guide for Safety and Justice in Arizona and is supported by the State Agency Coordination Team.

INJURY NAME: RELATIONSHIP VIOLENCE		
OBJECTIVE #1: DEVELOP AND ENHANCE DATA SYSTEMS FOR TRACKING ABUSIVE INCIDENTS		
STRATEGIC INTERVENTION	ACTION STEPS	KEY PARTNERS
1) Enhance regular surveillance of violence occurring in Arizona.	<ul style="list-style-type: none"> Identify and standardize data Evaluate the feasibility of Arizona implementing the National Violent Death Reporting System Annually review data and distribute reports 	Arizona Department of Public Safety ADHS Arizona Coalition Against Domestic Violence
Objective #2: Increase violence prevention activities across the state.		
1) Expand home visiting programs that work with families to address factors leading to abuse.	<ul style="list-style-type: none"> Seek additional state funding for programs like Health Start, Healthy Families, and Family Builders Provide enhanced training to program staff on prevention of violence 	ADHS Department of Economic Security
2) Expand services to children who witness domestic violence.	<ul style="list-style-type: none"> Seek funding source to add new community-based programs Provide education and technical assistance on children's issues to domestic violence providers. 	ADHS Arizona Department of Public Safety Department of Economic Security Arizona Chapter Academy of Pediatrics
3) Promote education of new parents about shaken baby syndrome.	<ul style="list-style-type: none"> Work with hospitals to provide information to new parents Disseminate information through various programs serving families 	ADHS Prevent Child Abuse Arizona Community-based organizations
4) Encourage all school districts to support violence prevention activities in schools	<ul style="list-style-type: none"> Identify and disseminate information on best practices for violence prevention to schools and community-based agencies. Present theory-based prevention programs to school boards and administration Provide "space" for violence prevention extra curricular programs 	Arizona Coalition Against Domestic Violence Arizona Sexual Assault Network Arizona Department of Education

STRATEGIC INTERVENTION	ACTION STEPS	KEY PARTNERS
5) Work with young people to influence cultural/social norms	<ul style="list-style-type: none"> • Provide skill building activities that address social norms • Create community education programs that promote healthy relationships and respect • Provide training for peer education 	ADHS Rape Prevention & Education Program community-based contractors Arizona Sexual Assault Network Arizona Coalition Against Domestic Violence
6) Increase public awareness through the media	<ul style="list-style-type: none"> • Train media professionals how to add prevention messages to news stories about violent events • Conduct social marketing campaigns to include PSA's on TV, Radio, Internet (website), ads in newspapers • Provide information including brochures & shoe cards in a variety of community locations. 	ADHS Arizona Coalition Against Domestic Violence Arizona Sexual Assault Network
7) Enhance community and professional education and training on primary prevention of relationship violence.	<ul style="list-style-type: none"> • Hold an annual statewide conference on sexual assault or domestic violence including a prevention focus. • Identify and support training opportunities, including multi-disciplinary cross-training. 	ADHS Governor's Office Arizona Sexual Assault Network Arizona Coalition Against Domestic Violence
8) Encourage agencies and systems that have regular contact with families to routinely screen for exposure to domestic and sexual violence and assess for needed services	<ul style="list-style-type: none"> • Identify or develop a universal screening tool • Train agency personnel on how to screen and referral system • Encourage introduction of curricula into professional school training • Provide training to domestic violence providers, medical professionals, and law enforcement 	Arizona Coalition Against Domestic Violence Arizona Department of Education ADHS
9) Raise public awareness that abuse, domestic violence, and sexual violence occurs in older populations.	<ul style="list-style-type: none"> • Provide training to domestic violence providers, medical professionals, and law enforcement. • Provide educational materials and resources for help to the general public. • Promote the establishment of local coalitions that address prevention of elder abuse and late life domestic violence. • Develop and distribute education materials, particularly targeting senior centers and retirement communities • Assist faith-based organizations to help raise awareness among their congregations • Ask the National Network of Employers Against Domestic Violence to encourage AARP to take on the issue 	Arizona Sexual Assault Network Area Agencies on Aging Arizona Coalition Against Domestic Violence Department of Economic Security Adult Protective Services Gov.'s Council on Aging

STRATEGIC INTERVENTION	ACTION STEPS	KEY PARTNERS
	<ul style="list-style-type: none"> • Identify other organizations, such as fraternal organizations, the military, and union retirees, to help raise violence as an issue among older adults 	

CONSEQUENCES OF INJURY

BACKGROUND

As a public health focus, injury prevention has three major branches:

1. The collection of population-based data (surveillance) to provide insight into the mechanisms of injury;
2. The development and implementation of interventions designed to reduce or prevent the occurrence of injury (primary prevention); and
3. The development of interventions that reduce the effects of injury-generated disability (disability prevention, which includes the prevention of related conditions secondary to the original injury)

Primary injury prevention activities targeting the major causes of injury-generated disability are discussed in the sections of this plan devoted to specific mechanisms of injury. This chapter addresses the consequences of injury and the systems needed to prevent these consequences.

While advancements in emergency medical treatment and the introduction of modern trauma systems have lowered injury-related death rates, many injuries result in short- and long-term disability that further burdens the public health system beyond initial medical care needs. A commonly held belief is that once a plateau of recovery is reached through rehabilitation, an individual with a disabling condition is likely to remain at this level of health status and functioning permanently. This view fails to recognize the true nature of disabling conditions as long term and dynamic, fluctuating in severity during the life course. The Institute of Medicine addressed the misconceptions and definitions of conditions resulting from injury in their 1991 *Committee on a National Agenda for the Prevention of Disabilities*. The Institute also defined conditions causally related to the primary disabling condition as secondary conditions, which can be impairments, functional limitations, or additional disabilities. The nature of this relationship lends itself to preventive interventions that are designed to reduce the risk of developing secondary conditions and the concomitant potential for additional deterioration in health status and quality of life.¹

According to the U.S. Census Bureau, an estimated 14% of Americans over the age of 5 have a disability, defined as a long-lasting sensory, physical, mental, or emotional condition. Among various age groups, these figures range from 6% among 5- to 24-year olds to nearly 50% among those over the age of 75.² Important sources of disability include injuries to the back, central nervous system, limb and eye, and burns.

Injuries to the central nervous system are the most likely to result in serious, long-term disability, and include both traumatic brain injury (TBI) and spinal cord

injury (SCI).³ Traumatic brain injury is defined as a blow or jolt to the head or a penetrating head injury that disrupts the function of the brain. An estimated 1.4 million Americans sustain traumatic brain injuries (TBI) annually, 50,000 of whom die as a result of their injuries. An additional 80,000 to 90,000 experience permanent disability, and it is estimated that 5.3 million Americans currently live with a TBI-related disability.⁴

While physical impairments are a visible contributor to disability, cognitive function deficits are a hallmark of TBI, and can lead to depression and other secondary outcomes including problems working and performing other daily activities. It is estimated that direct medical costs and indirect costs of TBI exceed 56.3 billion annually in the U.S. Falls, motor vehicle crashes, and being struck by or against an object are the leading causes of TBI in Arizona and nationwide. Age groups most impacted by these injuries are adolescents, young adults, and the elderly.⁵

Spinal cord injury occurs less frequently than TBI, but can result in severe disability, including paraplegia and quadriplegia. An estimated 11,000 individuals sustain spinal cord injuries every year, with a total of approximately 200,000 individuals currently living with SCI.² In addition to primary injury, secondary conditions, including pressure ulcers, contribute to lost productivity.

There were 1,288 deaths from traumatic brain injuries (TBI) in Arizona during 2004. In addition, there were 8,039 inpatient hospitalizations and 27,273 emergency room visits for TBI.

LIMITATIONS OF DATA

Although there is substantial data on mechanisms of injury, one of the barriers to disability prevention and control is the lack of population-based data on injury-generated disabilities. The U.S. Census Bureau estimates the prevalence of disability among various age groups through administration of the American Community Survey, but data on the causes of disability are not available. In the area of traumatic brain injury, Arizona supported an active surveillance program through 2003 with the support of an injury prevention grant from the Centers for Disease Control and Prevention, and is now continuing surveillance through analysis of hospital discharge and vital records data. Since the nature and extent of traumatic brain and spinal cord injuries are oftentimes not known until long after an individual is released from care, surveillance of these injuries is laborious and complex, and methodologies are being developed to efficiently generate accurate incidence and hospitalization rates.

CURRENT INTERVENTIONS

Programs and prevention efforts for traumatic brain and spinal cord injury are present on many levels in the state, from small community car seat and seat belt campaigns to city ordinances requiring bicycle helmets. Information about primary injury prevention activities targeting the major causes of traumatic brain injury and spinal cord injury, such as motor vehicle accidents, falls, and firearms (intentional and unintentional injury) is provided in the sections of this plan devoted to these mechanisms of injury.

Programs and activities addressing the prevention of conditions secondary to traumatic brain injury and spinal cord injury are conducted by the Governor's Council on Spinal and Head Injuries, the Arizona Department of Health Services-Office for Children with Special Health Care Needs, the Brain Injury Association of Arizona, and the Arizona Spinal Cord Injury Association. Several federally funded and state projects have TBI components: Safe Kids, EMSC grant, Think First for Kids, service coordination for children with TBI and SCI and playground safety campaigns. Additionally, several coalitions in the state address issues related to injury. Although these service programs do not have a primary prevention focus, they provide services to address the disability and as a result work towards lessening the effects of the disability and related secondary conditions.

Offices and organizations within Arizona that address other sources of injury and disability are addressed in other chapters of this plan. Continued collaboration will guarantee the establishment of priorities and will ensure diverse and innovative approaches to address the prevention of injury-generated disability.

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4. Langlois JA, Rutland-Brown W, Thomas KE. *Traumatic Brain Injury in the United States: Emergency Department Visits, Hospitalizations and Deaths*. Atlanta (GA): Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2004

5. Thurman D. *The Epidemiology and Economics of Head Trauma*. In: Miller L, Hayes R, editors. *Head Trauma: Basic, Preclinical, and Clinical Directions*. New York (NY): Wiley and Sons; 2001.

RECOMMENDATIONS

In 2004, a State Technical Assessment Team (STAT) from the State and Territorial Injury Prevention Directors Association (STIPDA) visited Arizona interviewing ADHS staff and injury prevention advocates from throughout the state. Since that time ADHS has committed to strengthening injury prevention in Arizona by investing in additional personnel in data collection and analysis as well as a permanent position to lead the Injury Prevention Program and coordinate the internal functions of the program. The establishment of the Arizona Injury Prevention Advisory Council (IPAC) also strengthened the infrastructure for injury prevention in Arizona. In addition to the specific assessment of the STAT team, STIPDA has published guidelines for successful state injury prevention programs. The following recommendations are based on the STAT assessment, STIPDA guidelines, and the common themes identified during the process of developing the Arizona Injury Prevention Plan.

COLLECTING AND ANALYZING INJURY DATA

A number of gaps in the area of data collection and analysis have been noted. To address these gaps we recommend the following:

- Improve the coding of the external cause of injury in order to better ensure reliable and valid data. In the course of analyzing data for this plan, it was noted that 7.2 percent of identified injury-related hospital discharges and 2.4 percent of injury-related emergency department visits were not coded as to mechanism. Reported e-codes were often nonspecific precluding accurate classification of injury mechanism.
- Expand data collection systems relative to causes and circumstances in order to more effectively develop and implement effective interventions. Injuries often involve an underlying cause such as poverty, overcrowding, sub-standard housing or unsafe working conditions, data on these conditions are not included.
- Further information is needed to address the impact of specific types of injuries not covered in this plan, especially sports and work-related injury.
- Develop and support a research agenda to address Arizona's priority injury problems.

DESIGNING, IMPLEMENTING, AND EVALUATING INTERVENTIONS

Arizona has been strong in the development and implementation of injury prevention programs at both the community and state levels. Many of these interventions are identified in the plan.

- We recommend efforts be continued to ensure that approaches to behavioral change include not only educational, but also policy and environmental interventions. Expanding our partners beyond the traditional will aid in this process. Partners to incorporate represent urban planning, engineering, and building code and legal professionals as well as business representatives.
- As in *Injury Prevention and Public Health*¹, we recommend implementing evidence-based interventions that are adapted for the particular target population. Recognizing that some injuries are more prevalent in certain populations, all interventions should be appropriate to the culture, language, and traditions of those populations. High-risk populations include not only ethnic groups, but also those based on age (i.e. adolescents, the elderly) or other factors (i.e. the disabled).
- In order to leverage resources and educational effort, integrate injury prevention with other areas of public health on a more regular basis. For example, behavioral health services can impact injury preventions particularly for intentional injuries. Alcohol and drug abuse are common risk factors seen across the various mechanisms of injury and integrating substance abuse activities in injury prevention could significantly reduce the rates of injury in Arizona. The rise in childhood obesity involves increasing physical activity and may be integrated with injury prevention through efforts to increase safe play.
- We recommend that evaluation components should be required for all injury prevention projects implemented or funded through ADHS and that those results are used to improve program effectiveness. We recommend increased support for evaluation of injury prevention projects including training in evaluation, funding for programs deemed as successful through evaluation, and provision of data to those tasked with evaluation.

BUILDING A SOLID INFRASTRUCTURE FOR INJURY PREVENTION

This statewide plan outlining the burden of injury is a critical element of the infrastructure for injury prevention in Arizona. To further strengthen the infrastructure we recommend the following:

¹ Christoffell, T. Gallagher, S. (1999) *Injury Prevention and Public Health Practical Knowledge, Skills, and Strategies*.

- Based on the Arizona Injury Prevention Plan, the ADHS Injury Prevention Advisory Council (IPAC) should identify statewide short- and long-term priorities. These priorities, the process for implementing these priorities and evaluating results should be communicated to the ADHS administration.
- The IPAC, in cooperation with ADHS administration, should search for sustainable and adequate funding for the implementation of the Injury Plan.

PROVIDING TECHNICAL SUPPORT AND TRAINING

- In association with the IPAC, a strategy for ensuring appropriate, available training for other agencies, community organizations and individuals should be presented to ADHS leadership.
- Data should be made available to county public health departments, agencies, and community-based organizations for use in developing, implementing, and evaluating injury prevention activities at those levels.
- Further reinforce state efforts to provide appropriate and continuous training to ADHS personnel.
- The IPAC should develop a list of training and technical support needs for injury prevention, which may include the areas of language, health literacy, and cultural issues.

AFFECTING PUBLIC POLICY

Knowledge of policy issues and the role of both state and external injury prevention personnel has continually been noted as a needed improvement in injury prevention efforts within Arizona.

- We recommend that training focused on policy change be undertaken and an agenda for affecting public policy be developed and implemented.
- We recommend that ADHS create a resource bank for those seeking information relative to injury prevention policy. The resource bank could include access to appropriate data, expert witnesses, writing assistance, contact information for advocacy groups and other useful resources as requested.
- Support the evaluation of injury prevention policies such as measuring changes in drowning rates resulting from the initiation of pool fencing ordinances.

EVALUATION

The evaluation for the Injury Surveillance and Prevention Plan will comprise of several steps. The Injury Plan has already begun to survey the problem of injury in Arizona by gathering data from various sources. The Injury Plan illustrates an extensive picture of the burden of injury in Arizona by type of injury and associated risk factors. Injury topics presented in the Injury Plan includes those identified by the State and Territorial Injury Prevention Director's Association (STIPDA) and required priorities set by the Centers for Disease Control and Prevention (CDC).

During the first year of the Injury Plan, partnerships and collaborations with key stakeholders will be further established beyond those already in place through the Injury Prevention Advisory Council. We recognize that these leaders in injury prevention play a vital role in priority setting and implementation of interventions. Data will be presented to stakeholders and injury priorities will be determined from public input. Acknowledging that a strategic planning effort cannot solve all of Arizona's injury issues, the collaborators will select injuries that present the greatest need and offer the largest opportunities. Prioritizing injuries is not intended to restrain prevention activities targeted at other injuries but will provide a broad framework to support all prevention activities.

In the current Injury Plan, each chapter leader was responsible for developing objectives. In future editions, the objectives will be consolidated and made more consistent across the Injury Plan. Objectives and strategies will be refined for each priority through a collaborative effort between the expertise of stakeholders, the Injury Prevention Advisory Council, chapter leaders, and the internal injury workgroup of the Arizona Department of Health Services. Measurable goals and objectives will allow for the progress of prevention programs to be monitored. Strategic interventions and action steps will then be implemented to achieve desired objectives. The success of this Injury Plan will be dependent upon the resulting actions.

An evaluation of the objectives will follow in subsequent years of the Injury Plan. Evaluation measures to chart the progress of the activities will be further developed by the Injury Prevention Advisory Council, chapter leaders, and the internal injury workgroup. Surveillance data will be used to determine if objectives have been achieved and to reflect changes in injury-related morbidity and mortality. Results of the evaluation will be used to adjust the intervention plan and implementation activities for the future. Thus, leading to a reassessment of the burden of injury in Arizona and a reevaluation of the priorities for injury prevention.

APPENDIX

DATA SOURCES

The following is a discussion of the various sources of injury data that were analyzed and presented in this plan.

VITAL RECORDS – DEATH CERTIFICATES

Every year, the Arizona Department of Health Services (ADHS) Bureau of Health Statistics publishes a compilation of vital records statistics in a document titled Arizona Health Status and Vital Statistics.¹ This document contains a wealth of information including injury mortality statistics by cause, geographic location, and various demographic factors.

In addition, the death certificate database made further analysis possible. The death certificate database contains comprehensive, population-based statewide data, with sufficient injury cases to break the data down by age, gender, race/ethnicity, geographic region, or other subcategories and retain reliability. Additionally, the death certificate database includes deaths of all Arizona residents regardless of where they died. These data were used to identify factors associated with increased mortality related to injuries.

INPATIENT HOSPITAL DISCHARGE DATABASE

All acute-care hospitals in Arizona, with the exception of tribal and federal hospitals (military and Indian Health Services), are required to submit inpatient hospital discharge data to the Arizona Department of Health Services (ADHS) twice a year. Inpatient hospital discharge data has been available since the late 1980's. These data were used to identify factors associated with hospitalizations due to injury and includes deaths in the hospital.

The hospital discharge database is a rich source of data, containing medical and financial data as well as information on various demographic factors. Patients who have been hospitalized more than once for the same or different injury in a given calendar year are counted multiple times. American Indians are underrepresented in the hospital discharge data because the inpatient hospital data does not include information from Indian Health Services or tribal hospitals.

Problems with coding have led to issues with reliability of the data in the past but auditing procedures have been implemented to improve data quality. Beginning

¹ Arizona Health Status and Vital Statistics reports: <http://www.azdhs.gov/plan/report/ahs/index.htm>

with data from the second half of 2003, hospitals were required to correct and resubmit data that did not meet standards.

EMERGENCY DEPARTMENT DATABASE

Emergency department data has been available on a statewide basis starting with July 2003. All acute-care hospitals in Arizona, with the exception of tribal and federal hospitals (military and Indian Health Services), are required to submit emergency department data to the ADHS twice a year.

Emergency department data include all patients seen in the emergency department but not admitted as inpatients. These data also includes deaths. Additionally, patients who have been seen in the emergency department more than once for the same or different injury in a given calendar year are counted multiple times.

Like the hospital discharge database, medical and financial data are included in the emergency department database. The emergency department data does not include information on race/ethnicity but does include gender and other demographic information. As with the hospital discharge database, the emergency department database reflects only those patients seen in non-federal and non-tribal facilities, which can result in limited information and under representation of certain groups.

CHILD FATALITY REVIEW

In 1993, the Arizona legislature (A.R.S. § 36-342, 36-350-4) mandated a statewide team to provide oversight of Arizona's Child Fatality Review Program, develop a data collection system, and produce an annual report summarizing their findings.² By statute, the state team includes representatives of the Arizona Chapter of the American Academy of Pediatrics, Indian Health Services, law enforcement, a prosecuting attorney's office, a county health department, a military advocacy program, child protective services, American Indian agencies, and a county medical examiner's office.

The Child Fatality Review Program is responsible for reviewing deaths in children under the age of 18 to determine whether or not the death was preventable. To accomplish this, local teams reviewed documents related to the circumstances of each child's death and made assessments of the preventability. A child's death was classified as preventable if an individual or the community could reasonably have done something that would have changed the circumstances that led to the child's death. Standardized data sheets that include extensive information

² Arizona Child Fatality Review Program: <http://www.azdhs.gov/phs/owch/cfr.htm>

regarding the circumstances surrounding the death and the team's findings were completed and entered into the Child Fatality Review database for analysis. Ninety-eight percent of the deaths occurring in Arizona were reviewed for 2004.

In addition to reviewing medical examiner reports, child fatality review teams reviewed records from hospitals, emergency departments, law enforcement agencies, Child Protective Services, and other sources. Because of this comprehensive, multi-disciplinary approach, the team's determination of cause and manner sometimes differed from those recorded on the death certificate. This comprehensive review makes these data especially valuable in not only understanding factors involved in childhood deaths, but also in determining prevention strategies.

BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM (BRFSS)

The Behavioral Risk Factor Surveillance System is comprised of survey data from all 50 states and the District of Columbia.³ The system consists of a series of cross-sectional telephone surveys conducted by state health departments with the assistance of the CDC. BRFSS uses a multistage design based on random-digit-dialing methods to select a representative sample from each state's non-institutionalized civilian population aged 18 years and older. The BRFSS questionnaire consists primarily of questions about personal behaviors that increase risk for one or more of the ten leading causes of death in the United States. Arizona has been participating in the BRFSS since 1982 to monitor the health behaviors of its adult population. The most recent year for which BRFSS data are available on Arizona is 2004.

THE YOUTH RISK BEHAVIOR SURVEILLANCE SYSTEM

The Youth Risk Behavior Surveillance System was established by the CDC to monitor the prevalence of youth behaviors that most influence health.⁴ The Youth Risk Behavior Survey (YRBS) focuses on priority health-risk behaviors established during youth that result in the most significant mortality, morbidity, disability, and social problems during both youth and adulthood. YRBS procedures were designed to protect the students' privacy by allowing for anonymous and voluntary participation. Students in grades 9 through 12 completed the self-administered questionnaire in their classrooms during a regular class period, and recorded their responses directly on a computer-scannable booklet or answer sheet. Local parental permission procedures were followed before survey administration. Arizona conducted statewide Youth Risk

³ CDC Behavioral Risk Factor Surveillance System: <http://www.cdc.gov/brfss/>

⁴ CDC Youth Risk Behavior Surveillance System: <http://www.cdc.gov/HealthyYouth/yrbs/index.htm>

Behavior Surveys in 2003 and 2005 allowing for Arizona-specific analysis and comparison to the rest of the nation.⁵

SAFE AND DRUG FREE SCHOOLS

In Arizona schools, violent and criminal behavior occurring on school grounds is reported to the Arizona Department of Education through the Safe and Drug Free Schools Report.⁶ Data for this report is collected through a web-based survey, and is required for all schools receiving federal funds for education. Ninety-eight percent of all public schools receiving federal funds completed a Safe and Drug Free Schools Report for the 2003 school year. A total of 77,810 incidents, ranging from bullying to use of firearms were reported to have occurred on school grounds. All incidents occurring on campus are included in the Safe and Drug Free School Reports, regardless of whether or not the incident occurred during school hours. Incidents involving students and non-students are included in the report.

⁵ Arizona Department of Education:
<http://www.ade.az.gov/schooleffectiveness/health/matrix/YRBS2005Results.asp>

⁶ Arizona Department of Education, School Safety and Prevention:
<http://www.ade.az.gov/schooleffectiveness/health/>

RESOURCES FOR INJURY PREVENTION

The following is a listing of injury related web sites. Arizona Department of Health Services does not endorse any of these sites. The web site addresses were working as of May 2006.

RESOURCES FOR INJURY PREVENTION	
American Academy of Pediatrics: contains general information related to child health, policy and practice statements, as well as recommendations that are based on scientific research.	www.aap.org
American Association of Poison Control Centers (AAPCC) is a nationwide organization of poison centers and interested individuals. AAPCC provides a forum for poison centers and interested individuals to promote the reduction of morbidity and mortality from poisonings through public and professional education and scientific research.	http://www.aapcc.org
American Public Health Association (APHA) is concerned with a broad set of issues affecting personal and environmental health, including federal and state funding for health programs, pollution control, programs and policies related to chronic and infectious diseases, a smoke-free society, and professional education in public health	http://www.apha.org/
American Red Cross is an emergency response organization. As part of a worldwide movement that offers neutral humanitarian care to the victims of war, the American Red Cross distinguished itself by also aiding victims of devastating natural disasters. Over the years, the organization has expanded its services, always with the aim of preventing and relieving suffering	www.redcross.org
American Trauma Society is dedicated to the prevention of trauma and improvement of trauma care	http://www.amtrauma.org/
Annie E. Casey Foundation works to build better futures for disadvantaged children and their families in the United	http://www.aecf.org/

RESOURCES FOR INJURY PREVENTION	
States. The primary mission of the Foundation is to foster public policies, human service reforms, and community supports that more effectively meet the needs of today's vulnerable children and families.	
Arizona Department of Health Services offers resources and information to protect the health of Arizonan's and provide essential human services for those who are least able to help themselves	www.azdhs.gov
Arizona Governor's Office of Highway Safety is the focal point for highway safety issues in Arizona. GOHS provides leadership by developing, promoting, and coordinating programs; influencing public and private policy; and increasing public awareness of highway safety.	http://www.azgohs.state.az.us
Bicycle Helmet Safety Institute: an abundance of information on bike safety	http://www.bhsi.org/
Brain Injury Association of America founded in 1980 by a group of individuals who wanted to improve the quality of life for their family members who had sustained brain injuries. Despite phenomenal growth over the past two decades, the Association remains committed to its grassroots. The Brain Injury Association of America encompasses a national network of more than 40 chartered state affiliates across the country, as well as hundreds of local chapters and support groups	www.biausa.org
Brain Injury Association of Arizona. BIAAZ chapters are groups that are involved in activities beyond a brain injury support group. These activities may include recreational activities, prevention projects, public awareness efforts and/or legislative advocacy. Generally, the chapters work to effect change in its community as a part of its state and national movement.	Brain Injury Association of Arizona-Tucson Chapter Contact-Janet Hawley 520-626-6073 Brain Injury Association of Arizona-Prescott Chapter Contact-Sally Lemberg 928-772-2985 Brain Injury Association of Arizona-Yuma Chapter Contact-Danielle Puentedura 928-726-7466

RESOURCES FOR INJURY PREVENTION	
	Brain Injury Association of Arizona-Phoenix Chapter Contacts-Cecile Zoltanski 602-332-1307 Penny Jacobson 602-316-9406
Bullying Prevention	www.stopbullyingnow.hrsa.gov www.canwetalk.org www.mentalhealth.samhsa.gov/15plus www.pathwayscourses.samhsa.gov
Burn Foundation a non-profit organization established in 1973 to educate families, emergency workers, and the medical community about burn prevention and care while providing burn survivors and their families support and recovery assistance	www.burnfoundation.org
CDC Mortality and Morbidity Weekly Report	http://www.cdc.gov/mmwr/
Centers for Disease Control and Prevention (CDC) has remained at the forefront of public health efforts to prevent and control infectious and chronic diseases, injuries, workplace hazards, disabilities, and environmental health threats. Today, CDC is globally recognized for conducting research and investigations and for its action oriented approach. CDC applies research and findings to improve people's daily lives and responds to health emergencies—something that distinguishes CDC from its peer agencies.	www.cdc.gov
Children's Safety Network: CSN is a resource center for maternal and child health and injury prevention professionals in State and Territorial health departments who are committed to reducing injuries and violence among children and adolescents. CSN staff can offer expertise, resources, and contacts on any injury topic and can help you develop,	http://www.childrenssafetynetwork.org/

RESOURCES FOR INJURY PREVENTION	
implement, and evaluate injury and violence prevention activities	
Common Sense about Kids and Guns is a non-profit group of owners and non-owners of guns committed to working together to protect America's children from gun deaths and injuries	http://www.kidsandguns.org
Consumer Product Safety Commission is charged with protecting the public from unreasonable risks of serious injury or death from more than 15,000 types of consumer products under the agency's jurisdiction. This site has resources, recall information and fact sheets related to product.	www.cpsc.gov
Drowning Coalition of Central Arizona list resources, water safety tips and upcoming events.	www.preventdrownings.com
Emergency Medical Services for Children Program is a national initiative designed to reduce child and youth disability and death due to severe illness and injury. Medical personnel, parents and volunteers, community groups and businesses, and national organizations and foundations all contribute to the effort. HRSA administers the program in partnership with the U.S. Department of Transportation's National Highway Traffic Safety Administration.	http://www.ems-c.org/
Emergency Nurses Association is the national Association for professional nurses dedicated to the advancement of emergency nursing practice. ENA's Injury Prevention programs work to reduce injury- and violence-related morbidity and mortality by developing, promoting, evaluating and disseminating injury and violence prevention programs for emergency health care professionals and the community	www.ena.org
Family Violence Prevention Fund works to prevent violence	www.endabuse.org

RESOURCES FOR INJURY PREVENTION	
within the home, and in the community, to help those whose lives are devastated by violence because everyone has the right to live free of violence.	
Harborview Injury Prevention and Research Center researches how and why people suffer injuries and what can be done to prevent and treat them.	http://depts.washington.edu/hiprc/
HRSA, Maternal and Child Health Bureau (MCHB) authorizes programs and provides a foundation and structure for assuring the health of American mothers and children	http://www.mchb.hrsa.gov
Indian Health Services: The mission of the IHS Injury Prevention Program is to increase the health status of American Indians and Alaska Natives to the highest possible level by decreasing the incidence of severe injuries and death to the lowest possible level and increasing the ability of tribes to address their injury problems	http://www.ihs.gov/MedicalPrograms/InjuryPrevention/index.cfm
Injury Control Resource Information Network hosts a dynamic list of key Internet accessible resources related to the field of injury research and control. The resources are in the form of annotated clickable hyperlinks to other Internet sources and documents.	http://www.injurycontrol.com/icrin/frameicrin.htm
Injury Free Coalition for Kids is among the country's fastest growing and most effective injury prevention programs. They are a National Program of the Robert Wood Johnson Foundation comprised of hospital-based, community-oriented programs, whose efforts are anchored in research, education, and advocacy.	http://www.injuryfree.org/
Injury Prevention Web hosts the Web sites of several agencies and organizations working to prevent injuries. This site contains a weekly literature update of recent journal articles and agency reports, injury data for every U.S. state,	www.injuryprevention.org

RESOURCES FOR INJURY PREVENTION	
more than 1400 links to government and non-profit injury prevention sites worldwide, suggestions of books for your library.	
Insurance Institute for Highway Safety an independent, nonprofit, scientific and educational organization dedicated to reducing the losses — deaths, injuries, and property damage — from crashes on the nation's highways.	http://www.hwysafety.org/
Leadership to Keep Children Alcohol Free a unique coalition of Governors' spouses, Federal agencies, and public and private organizations, is an initiative to prevent the use of alcohol by children ages 9 to 15.	http://www.alcoholfreechildren.org/
Maternal Child Health Bureau Library at Georgetown University provides the MCH community with accurate and timely information on a broad range of topics. Materials include the weekly newsletter MCH Alert, resource guides, full text publications, databases, and links to quality MCH sites.	http://mchlibrary.info/
Men Can Stop Rape mobilizes male youth to prevent men's violence against women.	http://www.mencanstoprape.org/
Mothers Against Drunk Driving. MADD works to stop drunk driving, support the victims of this violent crime and prevent underage drinking.	www.madd.org
National Center for Suicide Prevention Training provides educational resources to help public officials, services providers and community based coalitions to develop effective suicide prevention programs and policies.	http://www.ncspt.org/
National Children's Advocacy Center (NCAC) a non-profit organization that provides training, prevention, intervention and treatment services to fight child abuse and neglect	http://www.nationalcac.org
National Emergency Medicine Association is committed to trauma prevention and the delivery of quality medical services at each stage of trauma with and emphasis on first	http://www.nemahealth.org/

RESOURCES FOR INJURY PREVENTION	
response at the time of the emergency.	
National Fire Protection goal is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training, and education.	www.nfpa.org
National Highway Traffic Safety Administration (NHTSA) is dedicated to achieving the highest standards of excellence in motor vehicle and highway safety. Traffic safety materials, fact sheets available at no charge.	www.nhtsa.dot.gov
National Institute on Alcohol and Alcoholism NIAAA provides leadership in the national effort to reduce alcohol-related problems by: Conducting and supporting research in a wide range of scientific areas including genetics, neuroscience, epidemiology, health risks and benefits of alcohol consumption, prevention, and treatment. Coordinating and collaborating with other research institutes and Federal Programs on alcohol-related issues. Collaborating with international, national, state, and local institutions, organizations, agencies, and programs engaged in alcohol-related work. Translating and disseminating research findings to health care providers, researchers, policymakers, and the public	http://www.niaaa.nih.gov/
National Organizations for Youth Safety promotes youth empowerment and leadership, and build partnerships that save lives, prevent injuries and enhance safe and healthy lifestyles among all youths.	www.noys.org
National Program for Playground Safety is a non-profit organization that deals with playground safety information in the United States. NPPS serves as a national clearinghouse	http://www.uni.edu/playground/

RESOURCES FOR INJURY PREVENTION

<p>for playground safety information; shares cutting-edge information as a global resource through its World Wide Web page.</p>	
<p>National Safety Council is a nonprofit, nongovernmental, international public service organization dedicated to protecting life and promoting health. The NSC is a membership organization, founded in 1913 and chartered by the U.S. Congress in 1953. Members include more than 46,000 businesses, labor organizations, schools, public agencies, private groups and individuals.</p>	<p>http://www.nsc.org/</p>
<p>Office of Juvenile Justice and Delinquency Prevention provides national leadership, coordination, and resources to prevent and respond to juvenile delinquency and victimization. OJJDP supports states and communities in their efforts to develop and implement effective and coordinated prevention and intervention programs and to improve the juvenile justice system so that it protects public safety, holds offenders accountable, and provides treatment and rehabilitative services tailored to the needs of juveniles and their families.</p>	<p>http://ojjdp.ncjrs.org/</p>
<p>Prevent Child Abuse Arizona is a chapter of Prevent Child Abuse America. PCA is a private, non-profit organization whose mission is to prevent the abuse and neglect of Arizona's children. PCA provides training, advocacy, program development, and public awareness to both public and private agencies, policy makers and funders</p>	<p>http://www.pcaaz.org</p>
<p>Public Health Foundation is dedicated to achieving healthy communities through research, training, and technical</p>	<p>www.phf.org</p>

RESOURCES FOR INJURY PREVENTION

<p>assistance. This national, non-profit organization has been creating new information and helping health agencies and other community health organizations connect to and more effectively use information to manage and improve performance, understand and use data, and strengthen the workforce</p>	
<p>Public Health Foundation, Training Finder learning resource for professionals who protect the public's health. A free service of the Public Health Foundation.</p>	<p>www.train.org</p>
<p>Risk Watch is a comprehensive injury prevention program available for use in schools. Developed by the National Fire Protection Association (NFPA) with co-funding from the Home Safety Council™ and in collaboration with a panel of respected safety and injury prevention experts, <i>Risk Watch</i> gives children and their families the skills and knowledge they need to create safer homes and communities.</p>	<p>http://www.nfpa.org/riskwatch/home.html</p>
<p>Safe Kids Worldwide a global network of organizations whose mission is to prevent accidental childhood injury, a leading killer of children 14 and under.</p>	<p>www.safekids.org</p>
<p>SafetyLit has information about injury occurrence and prevention is available from many sources. The weekly email update provides abstracts of English language reports from researchers in several disciplines relevant to preventing unintentional injuries, violence, and self-harm. SafetyLit staff and volunteers regularly examine more than 2000 journals from many nations. They also review conference proceedings and reports from government agencies and organizations. SafetyLit summaries are drawn from anthropology, economics, education, engineering, ergonomics, law and law enforcement, medicine, physiology, psychology, public health, public safety, nursing, social work, traffic safety, and other fields.</p>	<p>www.safetylit.org</p>

RESOURCES FOR INJURY PREVENTION

<p>State and Territorial Injury Prevention Directors Association (STIPDA) is a national non-profit 501c3 organization of professionals committed to strengthen the ability of state, territorial and local health departments to reduce death and disability associated with injury and violence</p>	<p>http://www.stipda.org/</p>
<p>Substance Abuse and Mental Health Services Administration (SAMHSA) was created to focus attention, programs, and funding on improving the lives of people with or at risk for mental and substance abuse disorders.</p>	<p>http://www.samhsa.gov/</p>
<p>The National Center for Injury Prevention and Control (NCIPC) works to reduce morbidity, disability, mortality, and costs associated with injuries.</p>	<p>http://www.cdc.gov/ncipc/</p>
<p>The Society for Advancement of Violence and Injury Research, SAVIR (formerly the National Association of Injury Control Research Centers, NAICRC) is devoted to promoting scholarly activity in injury control and addressing issues relevant to the prevention, acute care and rehabilitation of traumatic injury. These aims are achieved through multiple member activities in research, research dissemination, program development and evaluation, consultation, education and training.</p>	<p>http://www.naicrc.org/</p>
<p>United States Department of Justice enforces federal laws and defend the interests of the United States, ensures public safety against threats foreign and domestic and provides federal leadership in preventing and controlling crime.</p>	<p>www.usdoj.gov</p>

ABBREVIATIONS

Adult Protective Services	APS
American Association of Poison Control Centers	AAPCC
American Association of Retired Persons	AARP
American Association of Suicidology	AAS
American Automobile Association	AAA
American Heart Association	AHA
Annual Survey of Occupational Injuries and Illnesses	ASOII
Area Agency on Aging	AAA
Arizona Bridge to Independent Living	ABIL
Arizona Coalition Against Domestic Violence	ACADV
Arizona Department of Economic Security	DES
Arizona Department of Education	ADE
Arizona Department of Helath Services	ADHS
Arizona Department of Insurance	ADI
Arizona Department of Juvenile Corrections	ADJC
Arizona Department of Public Safety	DPS
Arizona Department of Transportation	ADOT
Arizona Firearm Safety Coalition	AFSC
Arizona Game & Fish	AZ G&F
Arizona Geriatric Society	AzGS
Arizona Health Care Cost Containment System	AHCCCS
Arizona Hospital and Healthcare Association	AzHHA
Arizona Injury Prevention Advisory Council	IPAC
Arizona Long Term Care System	ALTCS
Arizona Medical Association	ARMA
Arizona Mental Health Association	AMHA
Arizona Osteopathic Medicine Association	AOMA
Arizona Parent Teacher Association	AzPTA
Arizona Partnership for Implementing Patient Safety	APIPS
Arizona Psychiatric Association	APA
Arizona Public Health Association	AzPHA
Arizona Sexual Assault Network	AzSAN
Arizona State University	ASU
Assurance and Licensure Services	ALS
Behavioral Health Authority	BHA
Behavioral Risk Factor Surveillance System	BRFSS
Bureau of Emergency Medical Services	BEMS
Cardiopulmonary Resuscitation	CPR
Centers for Disease Control and Prevention	CDC
Child Protective Services	CPS
Community Health Center	CHS
Community Partnership of Southern Arizona	CPSA

Consumer Product Safety Commission	CPSC
Council of Governments	COG
Crash Outcomes Data Evaluation System	CODES
Department of Housing and Urban Development	HUD
Division of Behavioral Health Services	DBHS
Drowning Prevention Coalition of Central Arizona	DPCCA
Emergency Medical Services	EMS
Emergency Medical Services for Children	EMS-C
Emergency Mobile Pediatric /Adolescent Crisis Team	EMPACT
Federal Motor Carrier Safety Administration	FMCSA
Governor's Advisory Council on Aging	GACA
Governor's Office of Highway Safety	GOHS
Governor's Traffic Safety Advisory Council	GTSA
Health Maintenance Organization	HMO
Health Services Advisory Group	HSAG
Indian Health Services	IHS
International Classification of Diseases	ICD
Inter-Tribal Council of Arizona	ITCA
Intimate Partner Violence	IPV
Local Health Department	LHD
Maricopa County Sheriff's Office	MCSO
Mothers Against Drunk Driving	MADD
National Child Abuse and Neglect Data System	NCANDS
National Electronic Injury Surveillance System	NEISS
National Fire Incident Reporting System	NFIRS
National Fire Protection Association	NFPA
National Highway Traffic Safety Administration	NHTSA
National Incident Based Reporting System	NIBRS
National Occupant Protection Use Survey	NOPUS
National Safety Council	NSC
Northern Arizona Regional Behavioral Health Authority	NARBHA
Office of Women's and Children's Health	OWCH
Regional Behavioral Health Authorities	RBHA
Spinal Cord Injury	SCI
State and Territorial Injury Prevention Directors Association	STIPDA
State Technical Assessment Team	STAT
Students Against Destructive Decisions	SADD
Suicide Prevention Resource Center	SPRC
Traumatic Brain Injury	TBI
United States Coast Guard	USCG
Women's, Infant's and Children	WIC
Youth Risk Behavior Survey	YRBS

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Arizona Suicide Prevention Coalition
Governor's Council on Spinal and Head Injuries
State Agency Coordination Team
Governor's Commission to Prevent Violence Against Women